Noise Technical Report

Interstate Highway (I-) 10 from State Highway (SH) 46 to Farm-to-Market Road (FM) 3351

Bexar and Kendall Counties, Texas

CSJ: 0072-06-082 & 0072-07-075

May 2019

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT.

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1.0 Project Description

The Texas Department of Transportation (TxDOT) San Antonio District is proposing improvements to Interstate Highway (I-) 10 between Farm-to-Market Road (FM) 3351 (Ralph Fair Road) and State Highway (SH) 46 in Kendall and Bexar Counties, Texas. The project is located within the city limits of Boerne, Fair Oaks Ranch, and San Antonio as well as the census-designated area of Scenic Oaks. This is within the Alamo Area Metropolitan Planning Organization (AAMPO) region. I-10 currently functions as a major arterial that provides access to work, schools, places of work, recreational facilities, shopping areas, and medical facilities. Regionally, I-10 serves as an important route for commuters.

The existing typical section for the I-10 main lanes include 10-ft outside shoulders, two 12-ft main lanes in each direction, and 4- to 6-ft inside shoulders. The I-10 main lanes are currently used as general-purpose lanes. The existing facility throughout the project area primarily consists of a depressed grassy median. Breaks in the grassy median occur at overpasses at bridges, in which the median consists of concrete barrier divides. Overhead sign bridges (OSB) and metal beam guard fences (MBGFs) are dispersed throughout the project limits. The existing facility includes two, two-way frontage road lanes in each direction, with inside and outside shoulders on both the northern and southern sides of the I-10 main lanes. The frontage road is not curbed. Throughout the project limits, existing entrance and exit ramps connect the I-10 frontage roads to the general-purpose main lanes.

The proposed project would add one High Occupancy Vehicle (HOV) and one general-purpose lane in each direction. Upon completion of the proposed project, each direction of I-10 would typically consist of a 10-ft inside shoulder, one 12-ft HOV lane, a 4-ft buffer, three 12-ft general purpose lanes, and a 10-ft outside shoulder. A 4-ft buffer would separate the HOV lanes from the general-purpose lanes with striping and/or flexible pylons spaced at 20-ft intervals used to define the buffers. All improvements are proposed within the existing 300-ft (minimum) ROW. Roadway appurtenances and signals will be relocated, removed, or added as needed.

No new improvements are proposed on the I-10 frontage roads. However, it should be noted that the project schematics depict ramp and frontage road work that will be conducted as part of ongoing separate construction contracts. These ongoing contracts are considered the existing condition for the proposed project and are called out on the schematics at “To be Constructed by Others”. As part of the project, there will be vegetation removal and grading within some existing drainage easements.

2.0 Noise Analysis

2.1 Background and Methodology

This analysis was accomplished in accordance with TxDOT’s Federal Highway Administration (FHWA)-approved *Guidelines for Analysis and Abatement of Roadway Traffic Noise* (April 2011). Traffic volume data approved by TxDOT’s Transportation Planning and Programming division used in this analysis can be found in **Appendix 2**.

Sound from highway traffic is generated primarily from a vehicle’s tires, engine, and exhaust. It is commonly measured in decibels and is expressed as “dB”. Sound occurs over a wide range of

frequencies. However, not all frequencies are detectable by the human ear; therefore, an adjustment is made to the high and low frequencies to approximate the way an average person hears traffic sounds. This adjustment is called A-weighting and is expressed as "dB(A)." Also, because traffic sound levels are never constant due to the changing number, type and speed of vehicles, a single value is used to represent the average or equivalent sound level and is expressed as "Leq."

Dominant noise sources within the proposed project area include traffic on existing roads and various kinds of local activity.

The traffic noise analysis typically includes the following elements:

- Identification of land use activity areas that might be impacted by traffic noise;
- Determination of existing noise levels;
- Prediction of future noise levels;
- Identification of possible noise impacts; and
- Consideration and evaluation of measures to reduce noise impacts.

FHWA has established the Noise Abatement Criteria (NAC) listed in **Table 1** for various land use activity areas that are used as one of two means to determine when a traffic noise impact would occur.

Table 1: Noise Abatement Criteria

Activity Category	FHWA (dB(A) Leq)	Description of Land Use Activity Areas
A	57 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67 (exterior)	Residential
C	67 (exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings
D	52 (interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E	72 (exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A-D or F
F	--	Agricultural, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	--	Undeveloped lands that are not permitted

A noise impact occurs when either the absolute or relative criterion is met:

- Absolute criterion: the predicted noise level at a receiver approaches, equals or exceeds the NAC. "Approach" is defined as 1 dB(A) below the FHWA NAC. For example: a noise

impact would occur at a Category B residence if the noise level is predicted to be 66 dB(A) or above.

- Relative criterion: the predicted noise level substantially exceeds the existing noise level at a receiver even though the predicted noise level does not approach, equal or exceed the NAC. "Substantially exceeds" is defined as more than 10 dB(A). For example: a noise impact would occur at a Category B residence if the existing level is 54 dB(A) and the predicted level is 65 dB(A).

When a traffic noise impact occurs, noise abatement measures must be considered. A noise abatement measure is any positive action taken to reduce the impact of traffic noise on an activity area.

The FHWA traffic noise modeling software (version 2.5) was used to calculate existing and predicted (2044) traffic noise levels. The model primarily considers the number, type, and speed of vehicles; highway alignment and grade; cuts, fills and natural berms; surrounding terrain features; and the locations of activity areas likely to be impacted by the associated traffic noise.

2.2 Consideration of Future Noise Impacts

Existing and predicted traffic noise levels were modeled at receiver locations (**Table 2** and **Figure 2**) that represent the land use activity areas adjacent to the proposed project that might be impacted by traffic noise and potentially benefit from feasible and reasonable noise abatement.

Table 2: Traffic Noise Levels dB(A) Leq

Receiver	NAC Category	NAC Level	Existing 2024	Predicted 2044	Change (+/-)	Noise Impact
R1	B (Residential)	67	54	57	+3	No
R2	B (Residential)	67	56	58	+2	No
R3	E (Hotel)	72	59	61	+2	No
R4	E (Restaurant)	72	59	61	+2	No
R5	D (Church)	52	35	37	+2	No
R6	E (Hotel)	72	62	65	+3	No
R7	B (Residential)	67	56	58	+2	No
R8	E (Hotel)	72	60	62	+2	No
R9	B (Residential)	67	53	55	+2	No
R10	B (Residential)	67	55	57	+2	No
R11	B (Residential)	67	55	57	+2	No
R12	B (Residential)	67	63	65	+2	No
R13	B (Residential)	67	65	67	+2	**Yes**
R14	B (Residential)	67	60	61	+1	No
R15	C (RV Park)	67	59	61	+2	No
R16	B (Residential)	67	67	68	+1	**Yes**
R17	B (Residential)	67	68	69	+1	**Yes**
R18	B (Residential)	67	64	65	+1	No
R19	B (Residential)	67	69	70	+1	**Yes**
R20	B (Residential)	67	68	70	+2	**Yes**
R21	B (Residential)	67	59	62	+3	No
R22	B (Residential)	67	64	67	+3	**Yes**
R23	B (Residential)	67	60	63	+3	No
R24	B (Residential)	67	63	67	+4	**Yes**
R25	B (Residential)	67	62	64	+2	No
R26	B (Residential)	67	65	68	+3	**Yes**
R27	D (Church)	52	42	44	+2	No
R28	B (Residential)	67	60	62	+2	No
R29	B (Residential)	67	61	63	+2	No
R30	B (Residential)	67	58	60	+2	No
R31	B (Residential)	67	60	63	+3	No
R32	B (Residential)	67	60	63	+3	No
R33	B (Residential)	67	60	63	+3	No
R34	B (Residential)	67	59	62	+3	No
R35	B (Residential)	67	57	60	+3	No
R36	B (Residential)	67	56	60	+4	No
R37	C (Playground)	67	61	65	+4	No
R38	B (Residential)	67	65	67	+2	**Yes**
R39	B (Residential)	67	64	67	+3	**Yes**
R40	B (Residential)	67	65	68	+3	**Yes**
R41	B (Residential)	67	59	63	+4	No

Table 2: Traffic Noise Levels dB(A) Leq						
Receiver	NAC Category	NAC Level	Existing 2024	Predicted 2044	Change (+/-)	Noise Impact
R42	B (Residential)	67	62	65	+3	No
R43	B (Residential)	67	61	64	+3	No
R44	B (Residential)	67	58	62	+4	No
R45	B (Residential)	67	60	64	+4	No
R46	B (Residential)	67	66	69	+3	**Yes**
R47	B (Residential)	67	69	72	+3	**Yes**
R48	B (Residential)	67	63	66	+3	**Yes**
R49	B (Residential)	67	61	65	+4	No
R50	E (Restaurant)	72	68	73	+5	**Yes**
R51	C (School)	67	59	64	+5	No

As indicated in **Table 2**, the proposed project would result in a traffic noise impact at 15 representative receiver locations, and the following noise abatement measures were considered: traffic management, alteration of horizontal and/or vertical alignments, acquisition of undeveloped property to act as a buffer zone, and the construction of noise walls.

Before any abatement measure can be proposed for incorporation into the project, it must be both feasible and reasonable. In order to be "feasible," the abatement measure must be able to reduce the noise level at greater than 50% of impacted first row receivers by at least 5 dB(A); and to be "reasonable," it must not exceed the cost-effectiveness criterion of $25,000 for each receiver that would benefit by a reduction of at least 5 dB(A), and the abatement measure must be able to reduce the noise level for at least one impacted first row receiver by at least 7 dB(A).

Traffic management - - Control devices could be used to reduce the speed of the traffic; however, the minor benefit of 1 dB(A) per five mph reduction in speed does not outweigh the associated increase in congestion and air pollution. Other measures, such as time or use restrictions for certain vehicles, are prohibited on state highways.

Alteration of horizontal and/or vertical alignments - Any alteration of the existing alignment would displace existing businesses and residences, require the acquisition of new right-of-way and would not be cost effective/reasonable.

Buffer zone - The acquisition of undeveloped property to act as a buffer zone is designed to avoid rather than abate traffic noise impacts and, therefore, is not feasible.

Noise walls - This is the most commonly used noise abatement measure. Noise walls were evaluated for each of the impacted receiver locations with the following results:

R13,16,17,19,20,22,24,45,46,47: These receivers represent separate, individual residences. Noise walls that would achieve the minimum feasible reduction of 5 dB(A)

while achieving a 7 dB(A) noise reduction design goal at each of these receivers would exceed the reasonable, cost-effectiveness criterion of $25,000.

R26: This is a second-row receiver that represents a group of 3 mobile homes located behind a row of commercial businesses. A noise wall within the right-of-way at this location would obstruct visibility and access to these businesses.

R38-40: These are second-row receivers that represent a total of 36 balconies facing the roadway at the Rustico At Fair Oaks Apartments, located behind medical offices and a school in the mixed-use development called Fair Oaks Crossing. A 20-foot wall was modeled within the right-of-way at this location. Due to gaps in the wall that would allow for access, the barrier would not be sufficient to achieve the minimum, feasible reduction of 5 dBA or the noise reduction design goal of 7 dBA.

R48: This is a second-row receiver that represents a group of 2 single-family homes located behind the entrance to the Scenic Oaks and Country Estates subdivisions. A noise wall within the right-of-way at this location would obstruct access to these subdivisions.

R50: This receiver represents the outdoor seating area at the Mi Casa Tamales restaurant. A noise wall that would achieve the minimum feasible reduction of 5 dB(A) while achieving a 7 dB(A) noise reduction design goal at this receiver would exceed the reasonable, cost-effectiveness criterion of $25,000.

None of the above noise abatement measures would be both feasible and reasonable; therefore, no abatement measures are proposed for this project.

To avoid noise impacts that may result from future development of properties adjacent to the project, local officials responsible for land use control programs must ensure, to the maximum extent possible, that no new activities are planned or constructed along or within the following predicted (2044) noise impact contours. **Table 3** provides approximate predicted distances to noise contours for undeveloped areas adjacent to the project.

Table 3: Land Use Contours for Undeveloped Land

Land Use	Impact Contour	Distance from Right-of-Way
NAC Category B & C	66 dB(A)	255 feet
NAC Category E	71 dB(A)	100 feet

2.3 Construction Noise

Noise associated with the construction of the project is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns. However, construction normally occurs during daylight hours when occasional loud noises are more tolerable. The receiver is not expected to be exposed to construction noise for a long duration;

therefore, any extended disruption of normal activities is not expected. Provisions will be included in the plans and specifications that require the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and proper maintenance of muffler systems.

3.0 Conclusions

As indicated in **Table 2**, the proposed project would result in a traffic noise impact at 15 representative receiver locations. Noise abatement measures were examined at each of the impacted receivers and none were found to be both feasible and reasonable; therefore, no abatement measures are proposed for this project.

4.0 Local Officials Statement

A copy of this traffic noise analysis will be made available to local officials to ensure, to the maximum extent possible, future developments are planned, designed, and programmed in a manner that would avoid traffic noise impacts. On the date of approval of this document (Date of Public Knowledge), FHWA and TxDOT are no longer responsible for providing noise abatement for new development adjacent to the project.

Appendix 1

Figures

Figure 1

Project Location (Road Base)

I-10 from SH 46 to Ralph Fair Rd (FM 3351)

Project Location

Basemap Source: ESRI (2018)

0 1.25 Miles

0 1.5 Kilometers

Prepared for: TxDOT	1 in = 1.25 miles
	Scale: 1:79,200
CSJs: 0072-06-082 & 0072-07-075	Date: 10/22/2018

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Figure 2a

Location of Noise Receivers

I-10 from SH 46 to Ralph Fair Rd (FM 3351)

Sheet Limits
Project Location
Non-impacted Receiver
Existing Barrier

Data Sources:
TxDOT (2018)
Aerial Source: Google (2018)

0 500 Feet
0 150 Meters

Prepared for: TxDOT	1 in = 500 feet
	Scale: 1:6,000
CSJs: 0072-06-082 & 0072-07-075	Date: 5/24/2019

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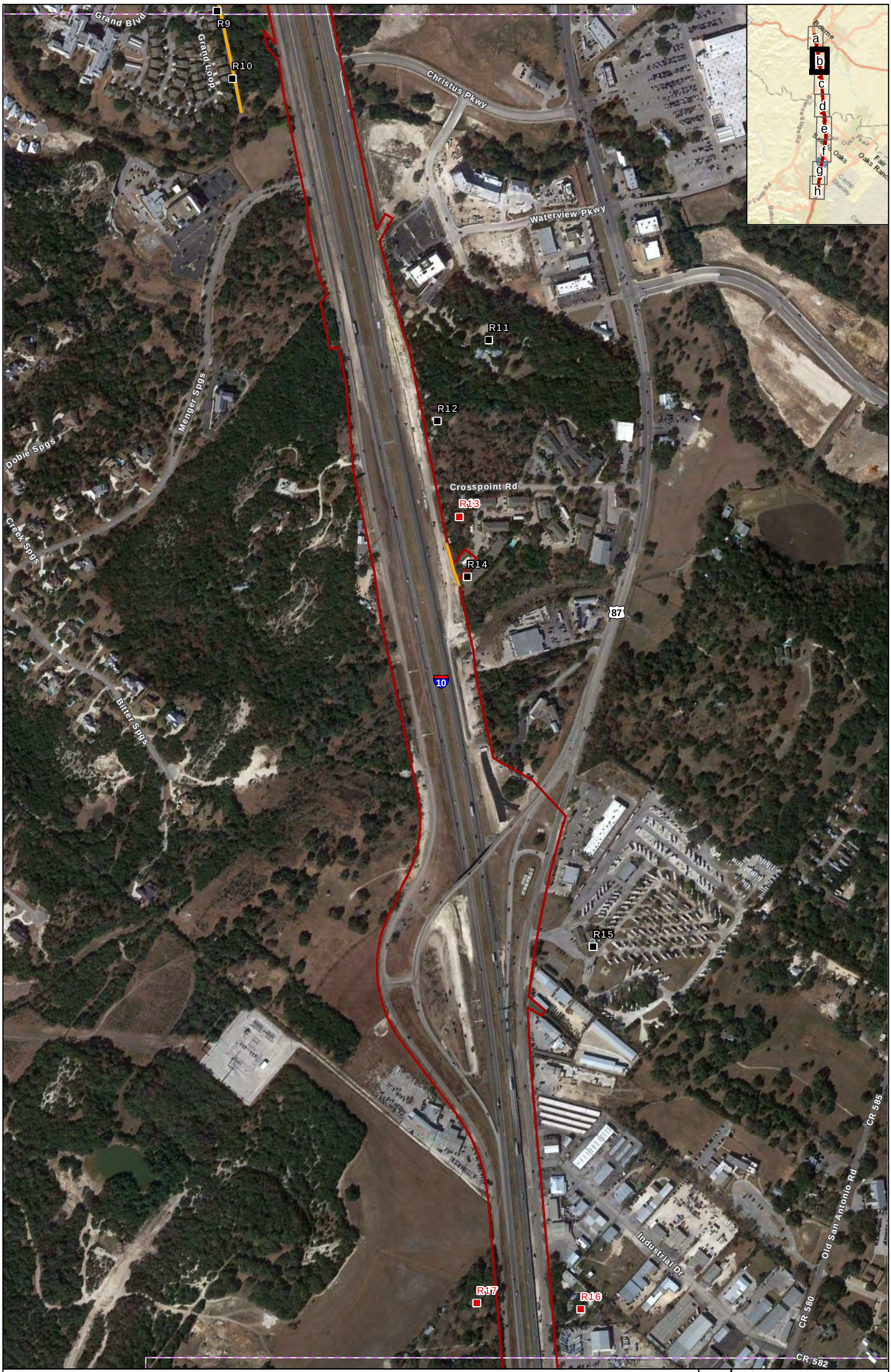

Figure 2b

Location of Noise Receivers

I-10 from SH 46 to Ralph Fair Rd (FM 3351)

Sheet Limits
Project Location
Non-impacted Receiver
Impacted Receiver
Existing Barrier

Data Sources:
TxDOT (2018)
Aerial Source: Google (2018)

0 500 Feet
0 150 Meters

Prepared for: TxDOT	1 in = 500 feet
	Scale: 1:6,000
CSJs: 0072-06-082 & 0072-07-075	Date: 5/24/2019

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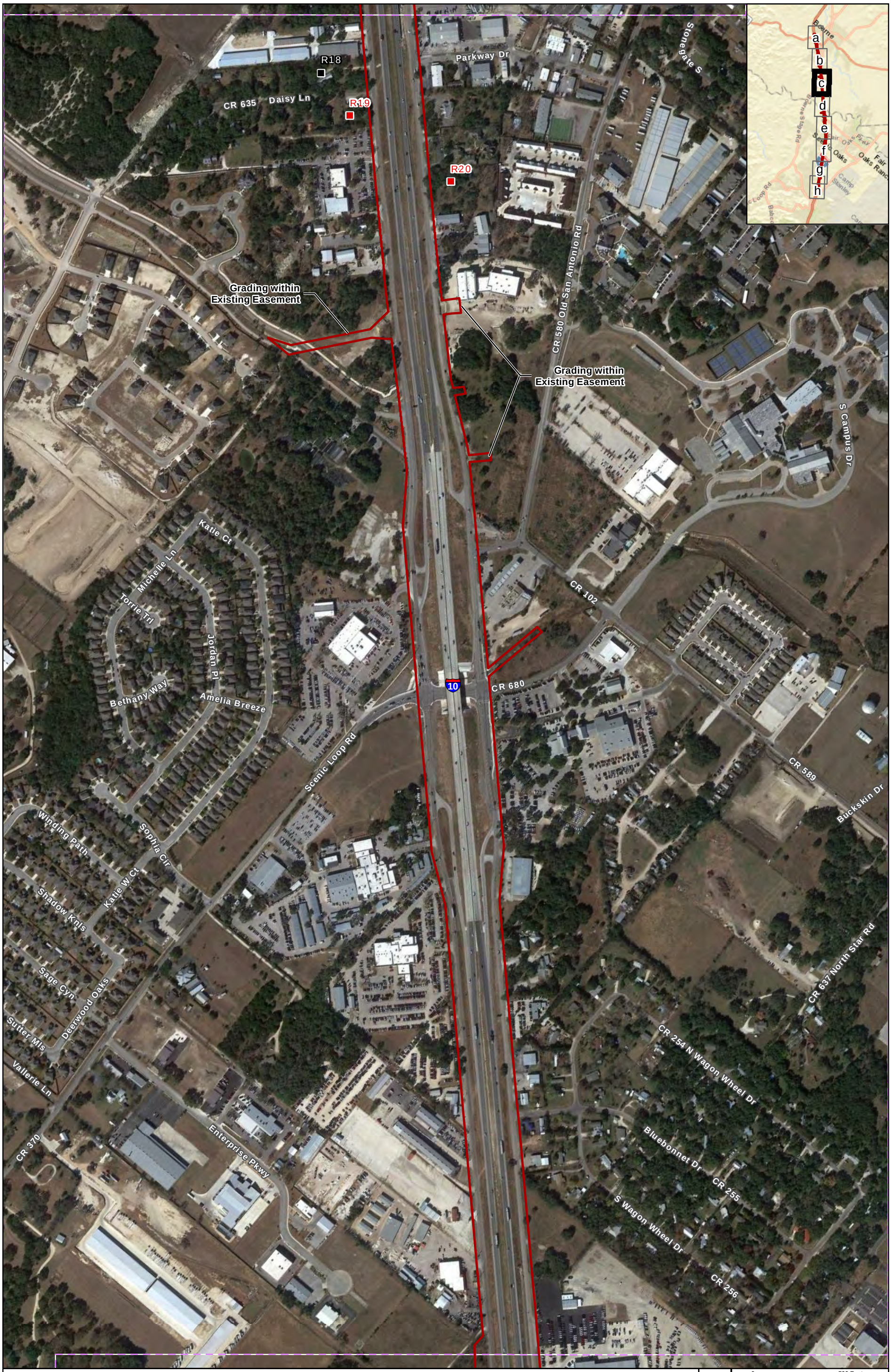

Figure 2c

Location of Noise Receivers

I-10 from SH 46 to Ralph Fair Rd (FM 3351)

Sheet Limits
Project Location
Non-impacted Receiver
Impacted Receiver

Data Sources: TxDOT (2018)
Aerial Source: Google (2018)

0 500 Feet
0 150 Meters

Prepared for: TxDOT	1 in = 500 feet
	Scale: 1:6,000
CSJs: 0072-06-082 & 0072-07-075	Date: 5/24/2019

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Figure 2d

Location of Noise Receivers

I-10 from SH 46 to Ralph Fair Rd (FM 3351)

Sheet Limits
Project Location
Non-impacted Receiver
Impacted Receiver

Data Sources:
TxDOT (2018)
Aerial Source: Google (2018)

0 500 Feet
0 150 Meters

Prepared for: TxDOT	1 in = 500 feet
	Scale: 1:6,000
CSJs: 0072-06-082 & 0072-07-075	Date: 5/24/2019

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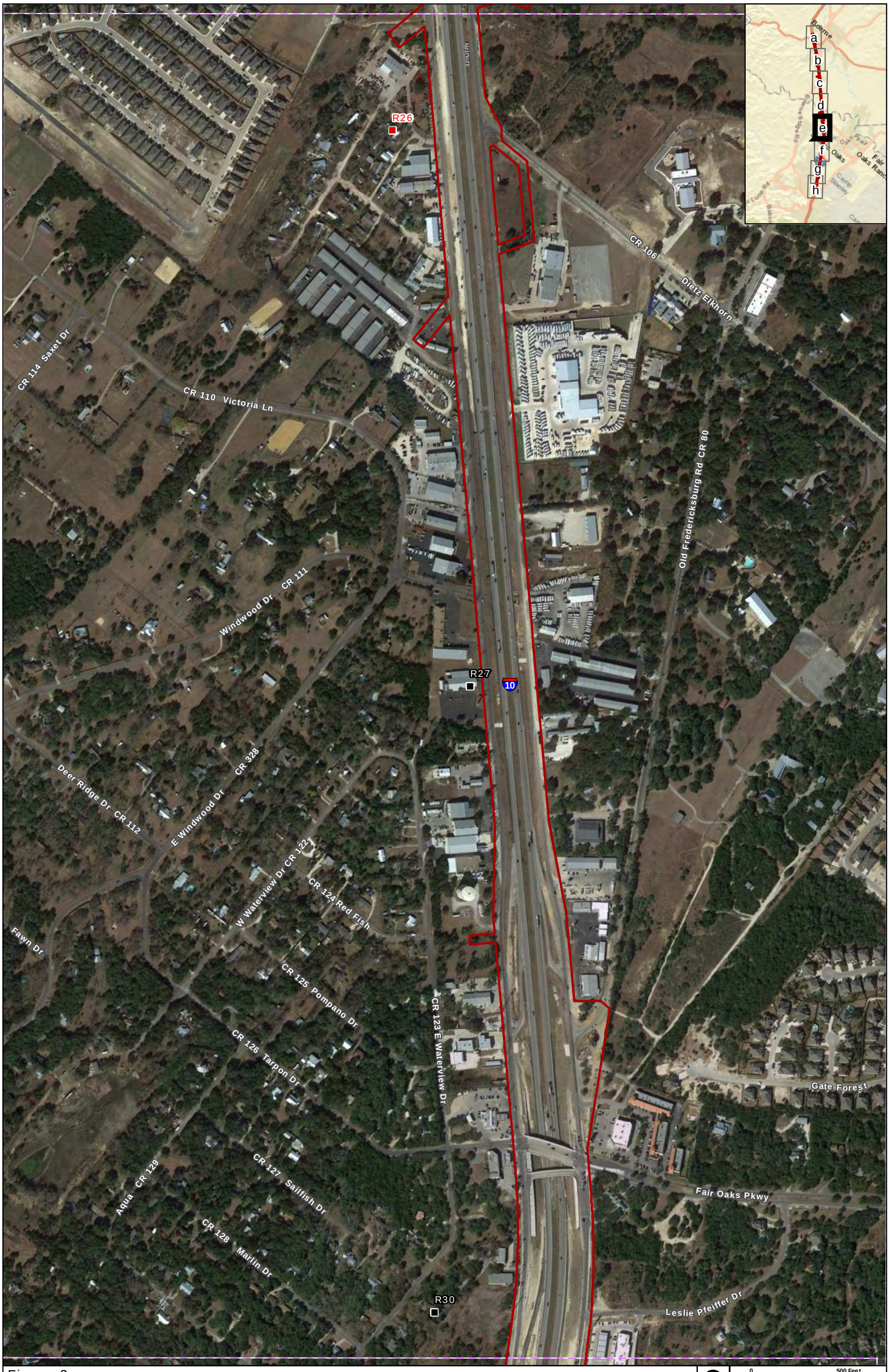

Figure 2e

Location of Noise Receivers

I-10 from SH 46 to Ralph Fair Rd (FM 3351)

Sheet Limits
Project Location
Non-impacted Receiver
Impacted Receiver

0 500 Feet
0 150 Meters

Data Sources:
TxDOT (2018)
Aerial Source: Google (2018)

Prepared for: TxDOT	1 in = 500 feet
	Scale: 1:6,000
CSJs: 0072-06-082 & 0072-07-075	Date: 5/24/2019

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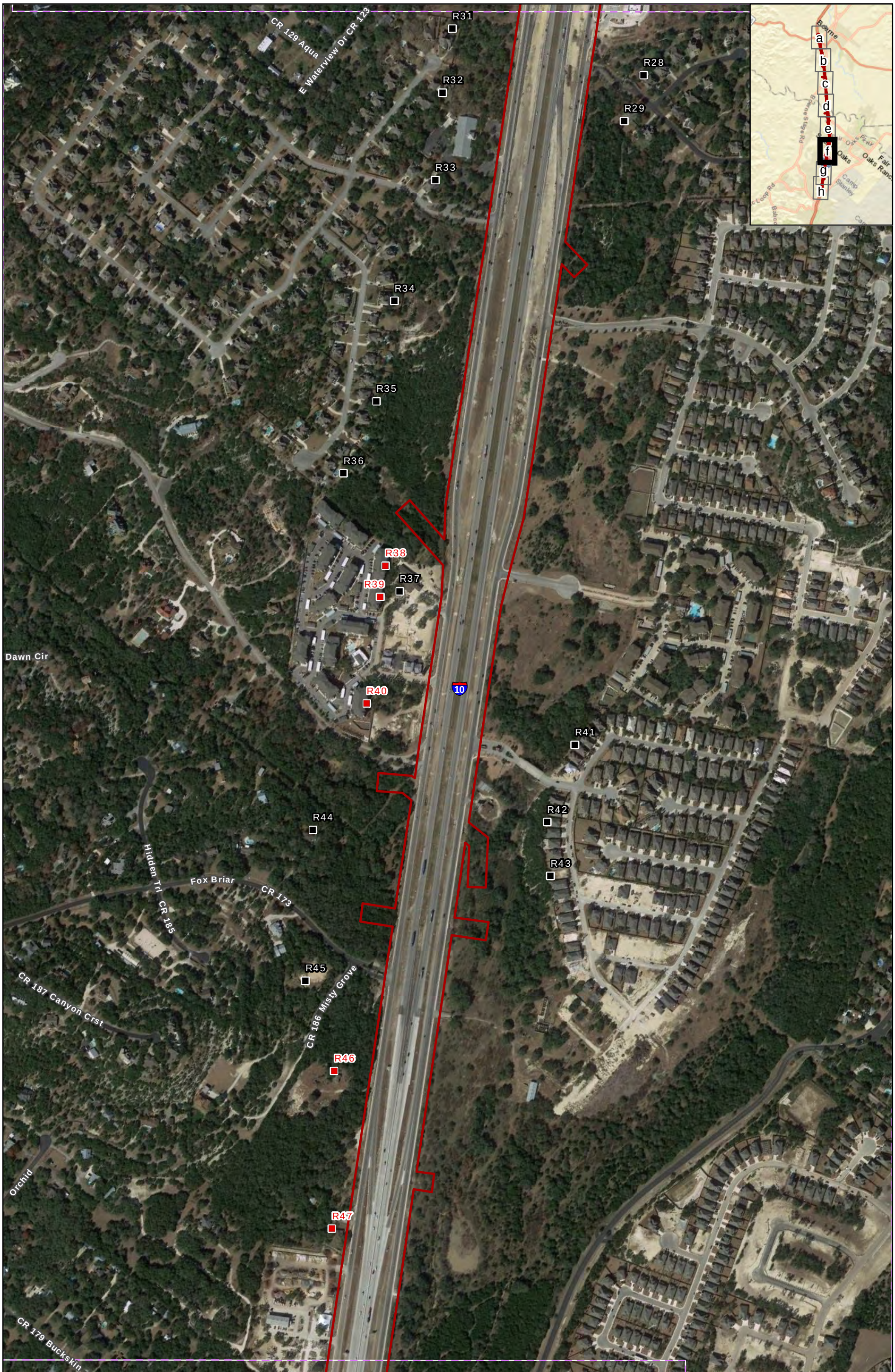

Figure 2f

Location of Noise Receivers

I-10 from SH 46 to Ralph Fair Rd (FM 3351)

Sheet Limits
Project Location
Non-impacted Receiver
Impacted Receiver

Data Sources:
TxDOT (2018)
Aerial Source: Google (2018)

0 500 Feet
0 150 Meters

Prepared for: TxDOT	1 in = 500 feet
	Scale: 1:6,000
CSJs: 0072-06-082 & 0072-07-075	Date: 5/24/2019

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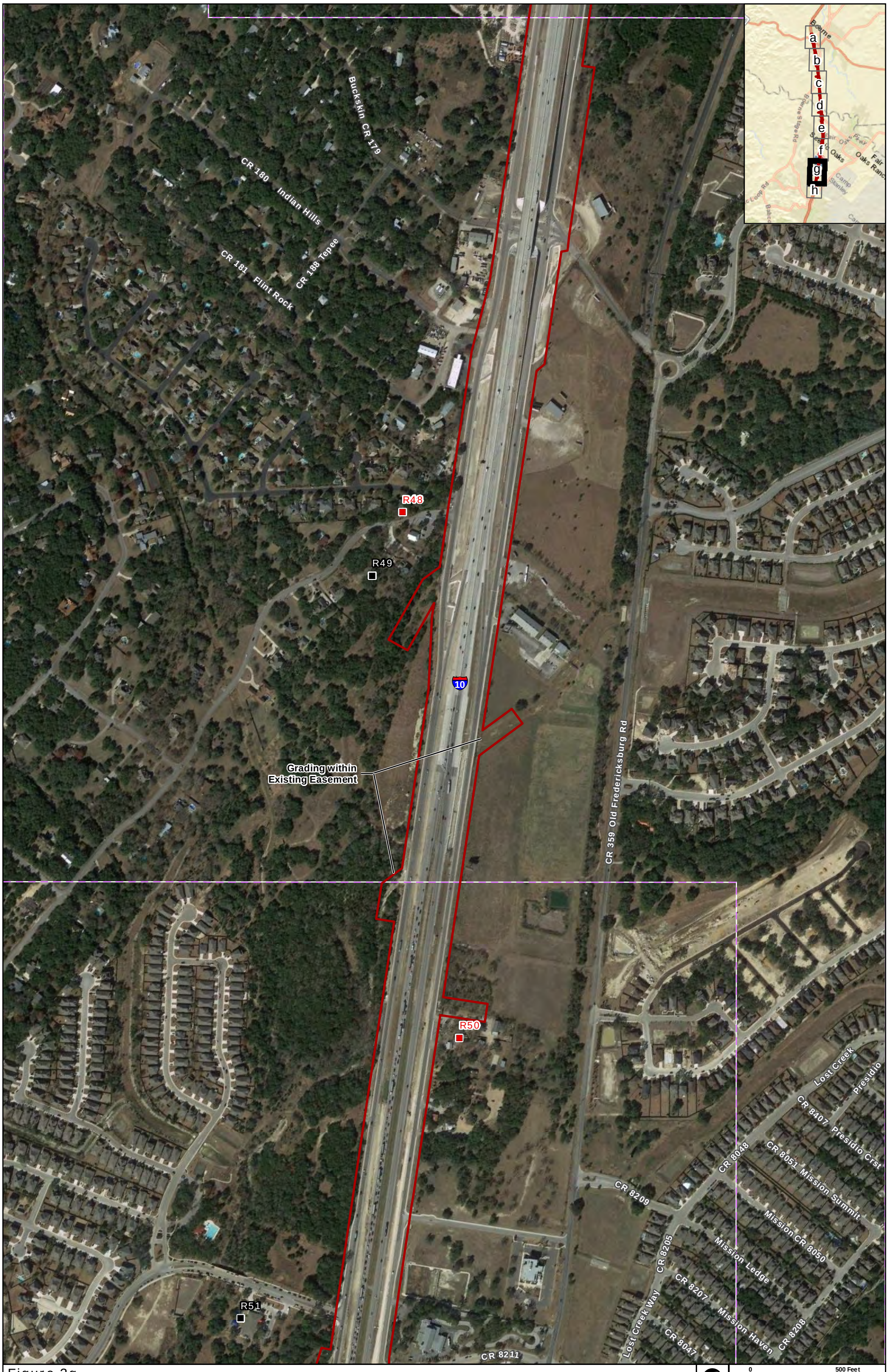

Figure 2g

Location of Noise Receivers

I-10 from SH 46 to Ralph Fair Rd (FM 3351)

Sheet Limits
Project Location
Non-impacted Receiver
Impacted Receiver

Data Sources:
TxDOT (2018)
Aerial Source: Google (2018)

0 500 Feet
0 150 Meters

Prepared for: TxDOT	1 in = 500 feet
	Scale: 1:6,000
CSJs: 0072-06-082 & 0072-07-075	Date: 5/24/2019

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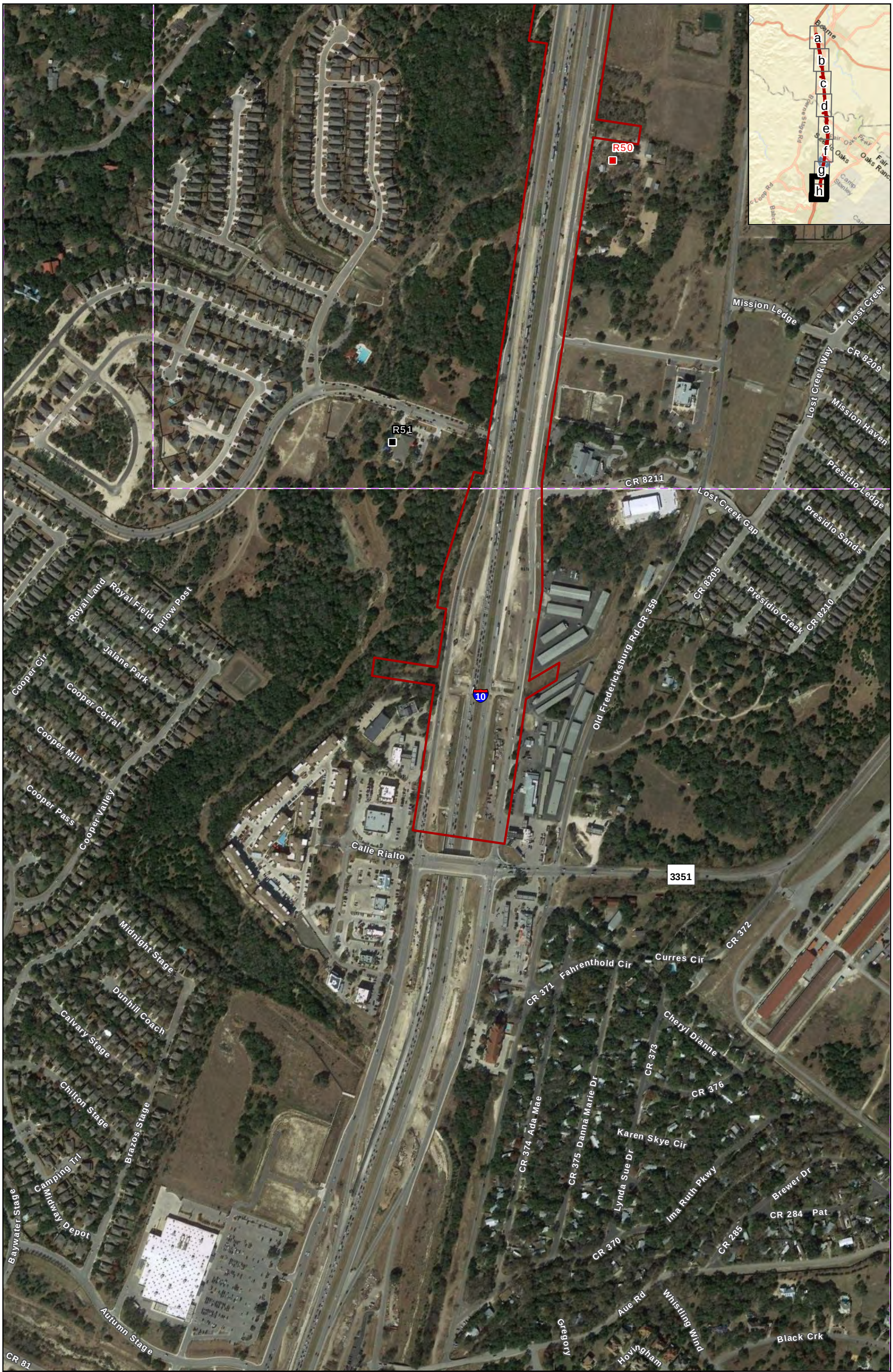

Figure 2h

Location of Noise Receivers

I-10 from SH 46 to Ralph Fair Rd (FM 3351)

Sheet Limits
Project Location
Non-impacted Receiver
Impacted Receiver

Data Sources:
TxDOT (2018)
Aerial Source: Google (2018)

0 500 Feet
0 150 Meters

Prepared for: TxDOT	1 in = 500 feet
	Scale: 1:6,000
CSJs: 0072-06-082 & 0072-07-075	Date: 5/24/2019

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Appendix 2

Traffic Analysis for Highway Design and Anticipated Average Daily Traffic

TRAFFIC ANALYSIS FOR HIGHWAY DESIGN

San Antonio District **November 30, 2018**

Description of Location	Average Daily Traffic 2024	Average Daily Traffic 2044	Base Year Dir Dist %	Base Year K Factor	Base Year Percent Trucks ADT	Base Year Percent Trucks DHV	ATHWLD	Percent Tandem Axles in ATHWLD	Total Number of Equivalent 18k Single Axle Load Applications One Direction Expected for a 20 Year Period (2024 to 2044) Flexible Pavement	SN	Rigid Pavement	SLAB
I-10 *DRAFT* - No Build From SH 46 To FM 3351 Kendall & Bexar County	105,300	159,000	50-50	8.6	8.0	3.6	0	0	0	3	0	8"

Data for Use in Air & Noise Analysis		
Vehicle Class	Base Year %of ADT	Base Year % of DHV
Light Duty	92.0	96.4
Medium Duty	1.4	0.1
Heavy Duty	6.6	3.0

Description of Location	Average Daily Traffic 2024	Average Daily Traffic 2044	Base Year Dir Dist %	Base Year K Factor	Base Year Percent ADT	Base Year Percent DHV	ATHWLD	Percent Tandem Axles in ATHWLD	Total Number of Equivalent 18k Single Axle Load Applications One Direction Expected for a 20 Year Period (2024 to 2044) Flexible Pavement	SN	Rigid Pavement	SLAB
I-10 *DRAFT* - No Build From SH 46 To FM 3351 Kendall & Bexar County	105,300	175,800	50-50	8.6	8.0	3.6	0	0	0	3	0	8"

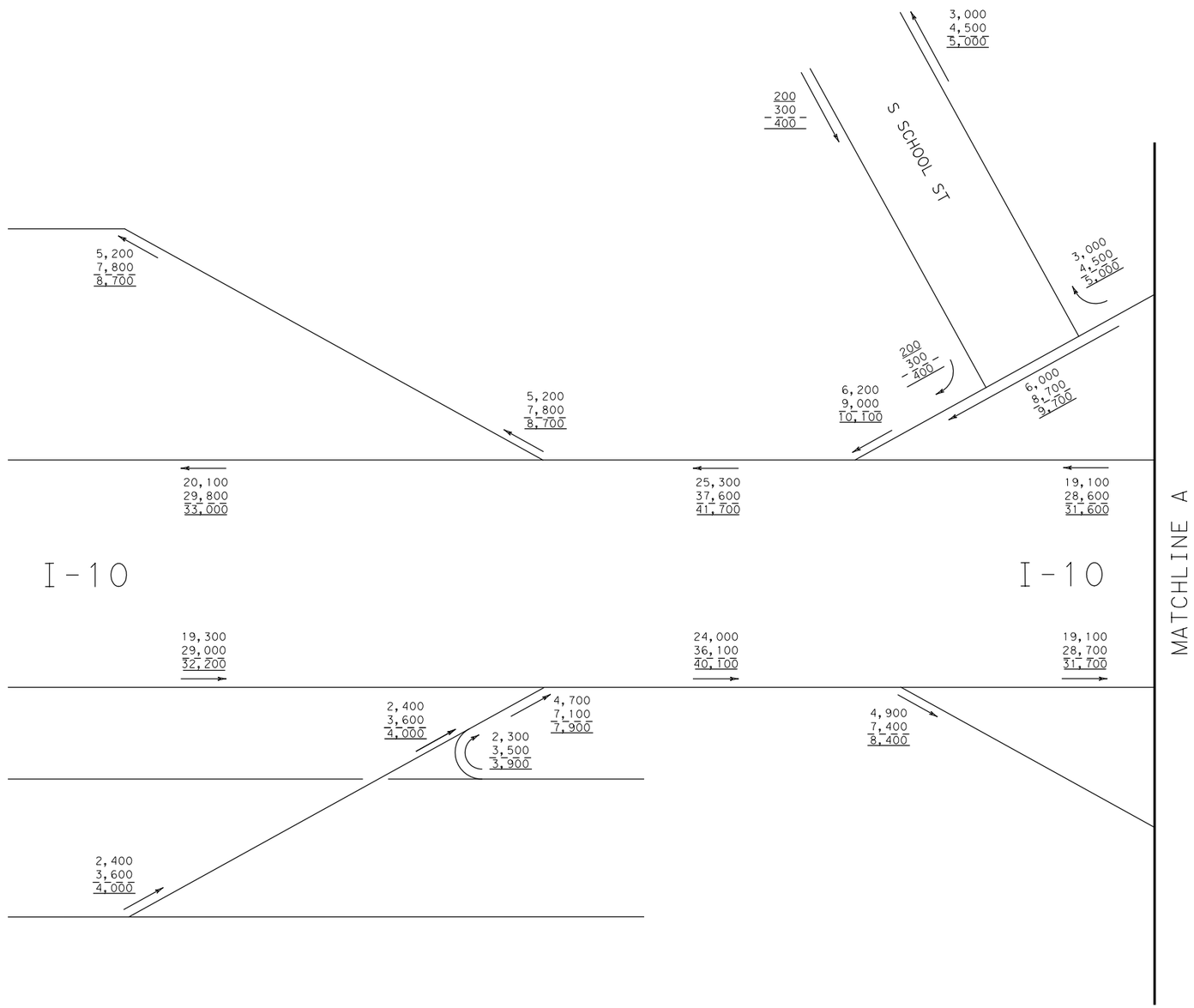
TRAFFIC ANALYSIS FOR HIGHWAY DESIGN

San Antonio District **November 30, 2018**

Description of Location	Average Daily Traffic 2024	Average Daily Traffic 2044	Base Year Dir Dist %	Base Year K Factor	Base Year Percent Trucks ADT	Base Year Percent Trucks DHV	ATHWLD	Percent Tandem Axles in ATHWLD	Total Number of Equivalent 18k Single Axle Load Applications One Direction Expected for a 20 Year Period (2024 to 2044) Flexible Pavement	SN	Rigid Pavement	SLAB
I-10 *DRAFT* - Build From SH 46 To FM 3351 Kendall & Bexar County	97,500	147,400	50-50	8.6	8.0	3.6	0	0	0	3	0	8"

Data for Use in Air & Noise Analysis		
Vehicle Class	Base Year %of ADT	Base Year % of DHV
Light Duty	92.0	96.4
Medium Duty	1.4	0.1
Heavy Duty	6.6	3.0

Description of Location	Average Daily Traffic 2024	Average Daily Traffic 2044	Base Year Dir Dist %	Base Year K Factor	Base Year Percent Trucks ADT	Base Year Percent Trucks DHV	ATHWLD	Percent Tandem Axles in ATHWLD	Total Number of Equivalent 18k Single Axle Load Applications One Direction Expected for a 20 Year Period (2024 to 2044) Flexible Pavement	SN	Rigid Pavement	SLAB
I-10 *DRAFT* - Build From SH 46 To FM 3351 Kendall & Bexar County	97,500	163,400	50-50	8.6	8.0	3.6	0	0	0	3	0	8"



LEGEND

1,000 - 2024 ADT
1,000 - 2044 ADT
1,000 - 2054 ADT

NOT TO SCALE

NOTE: PRELIMINARY TRAFFIC, AWAITING TP&P APPROVAL

HDR
Firm Registration No. F-754
17111 Preston Road, Suite 300
Dallas, Texas 75248-1229
972.960.4400

Texas Department of Transportation

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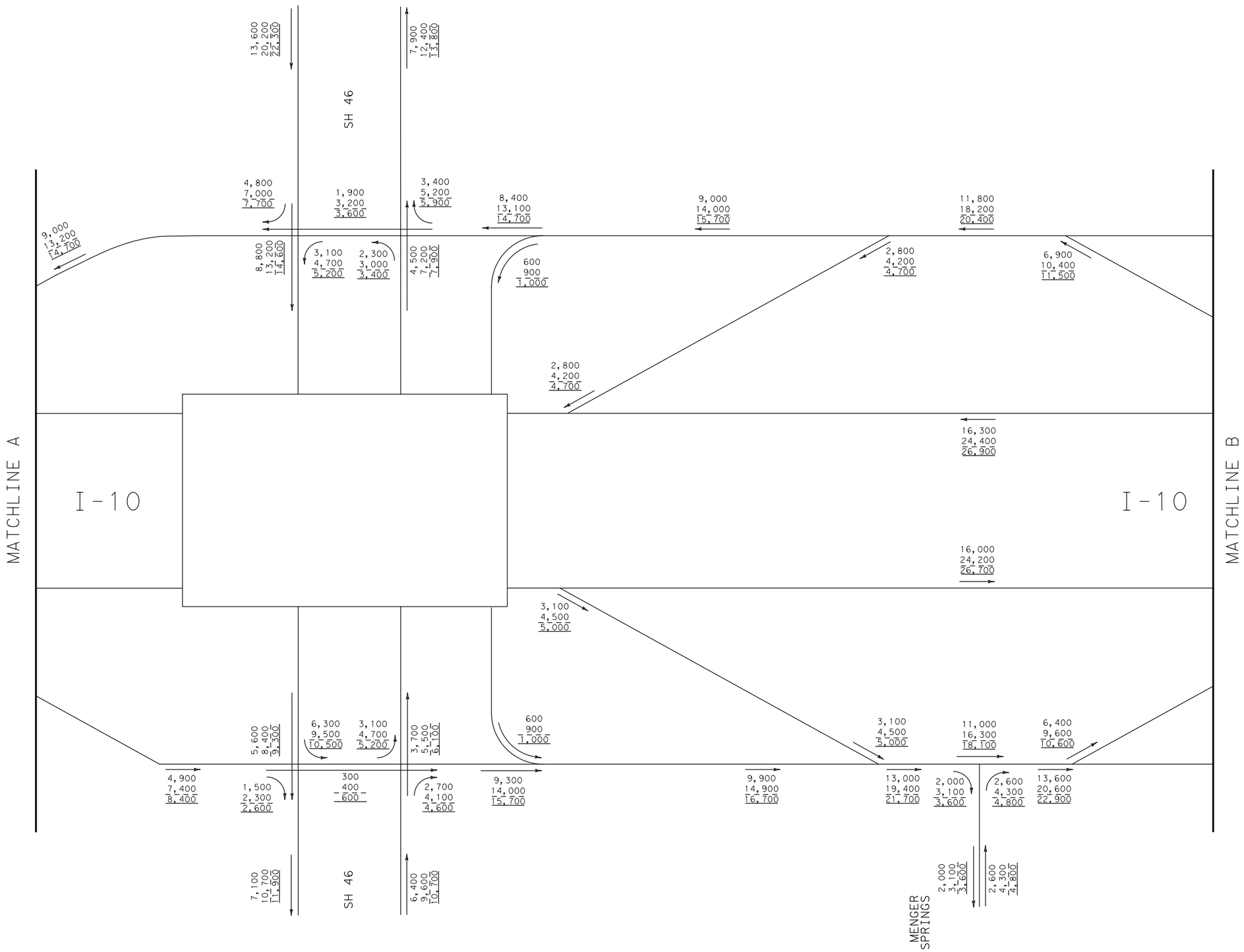
IH 10 TRAFFIC DIAGRAM FROM SH 46 TO FM 3351 2024, 2044, AND 2054 BUILD ADT

SHEET 01 OF 09

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 10
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	SAT	BEXAR/KENDALL	B1
CONTROL	SECTION	JOB	
0072	06	082	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
USER: VCHANG DATE: 9/27/2018 TIME: 2:30:58 PM PENTABLE: I0104955.tbl
FILE: $PWVARVAULTPATHDESC$ SCALE: 1:400.004



LEGEND

1,000 - 2024 ADT
1,000 - 2044 ADT
1,000 - 2054 ADT

NOT TO SCALE

NOTE: PRELIMINARY TRAFFIC, AWAITING TP&P APPROVAL

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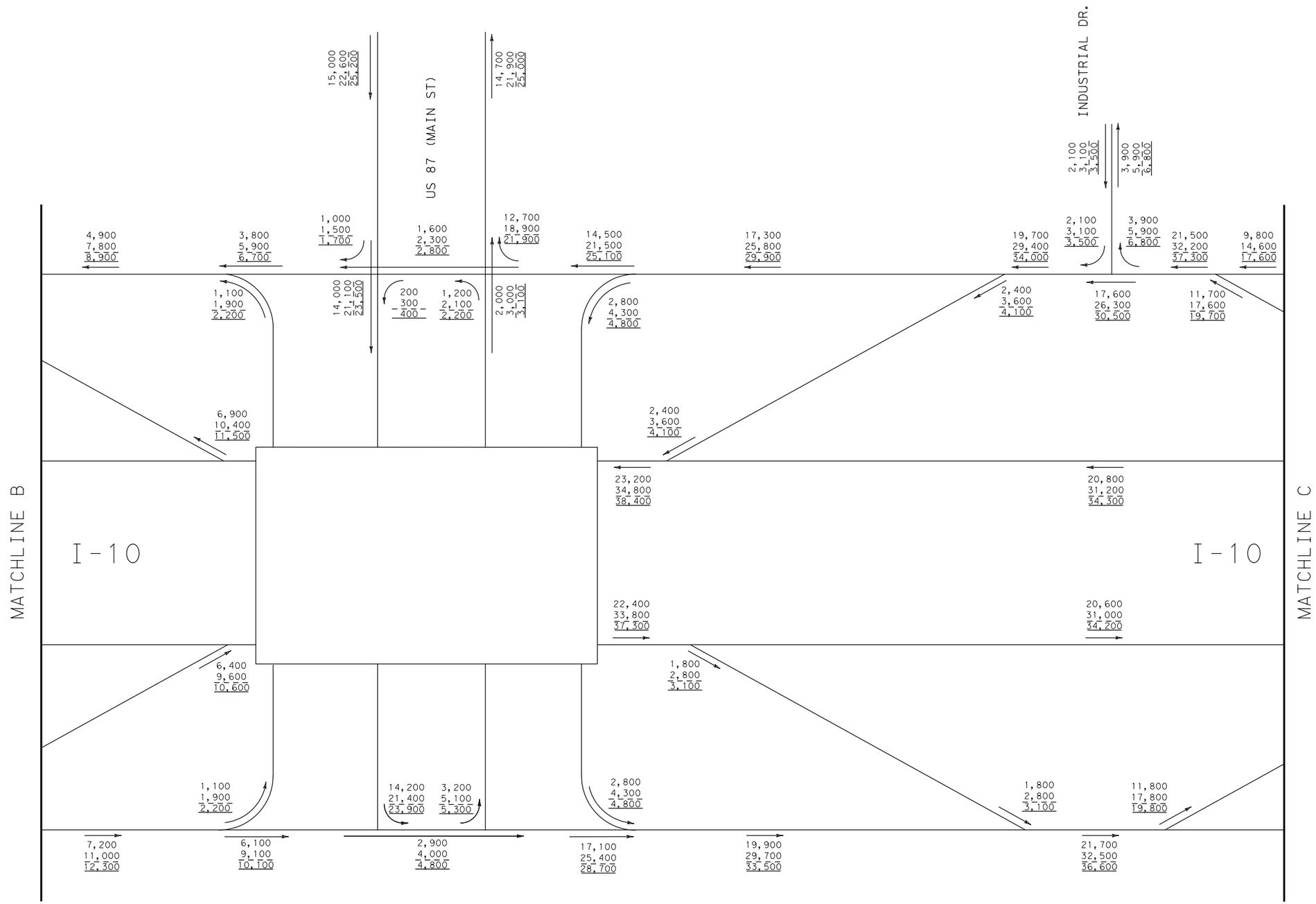
SHEET 02 OF 09

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 10
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	SAT	BEXAR/KENDALL	B2
CONTROL	SECTION	JOB	
0072	06	082	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
USER: VCHANG DATE: 9/27/2018
FILE: $PWVARVAULTPATHDESC$
TIME: 2:31:09 PM PENTABLE: I0104955.tbl
SCALE: 1:400.004



LEGEND
1,000 - 2024 ADT
1,000 - 2044 ADT
1,000 - 2054 ADT

NOT TO SCALE

NOTE: PRELIMINARY TRAFFIC, AWAITING TP&P APPROVAL

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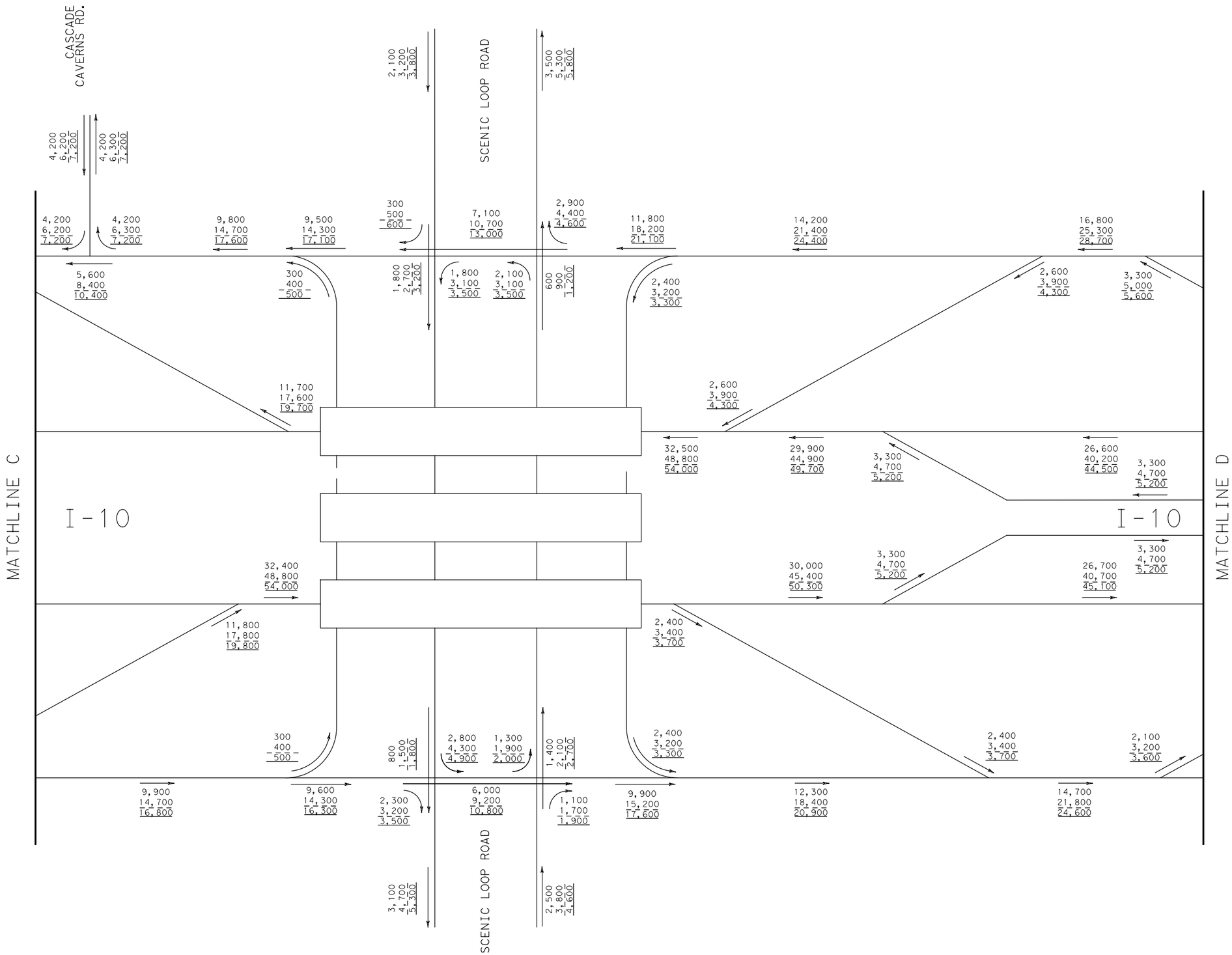
SHEET 03 OF 09

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 10
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	SAT	BEXAR/KENDALL	B3
CONTROL	SECTION	JOB	
0072	06	082	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
USER: VCHANG DATE: 9/27/2018
FILE: $PWVARVAULTPATHDESC$
TIME: 2:31:21 PM PENTABLE: I0104955.tbl
SCALE: 1:400.004



LEGEND
1,000 - 2024 ADT
1,000 - 2044 ADT
1,000 - 2054 ADT

NOT TO SCALE

NOTE: PRELIMINARY TRAFFIC, AWAITING TP&P APPROVAL

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SHEET 04 OF 09

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 10
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	SAT	BEXAR/KENDALL	B4
CONTROL	SECTION	JOB	
0072	06	082	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
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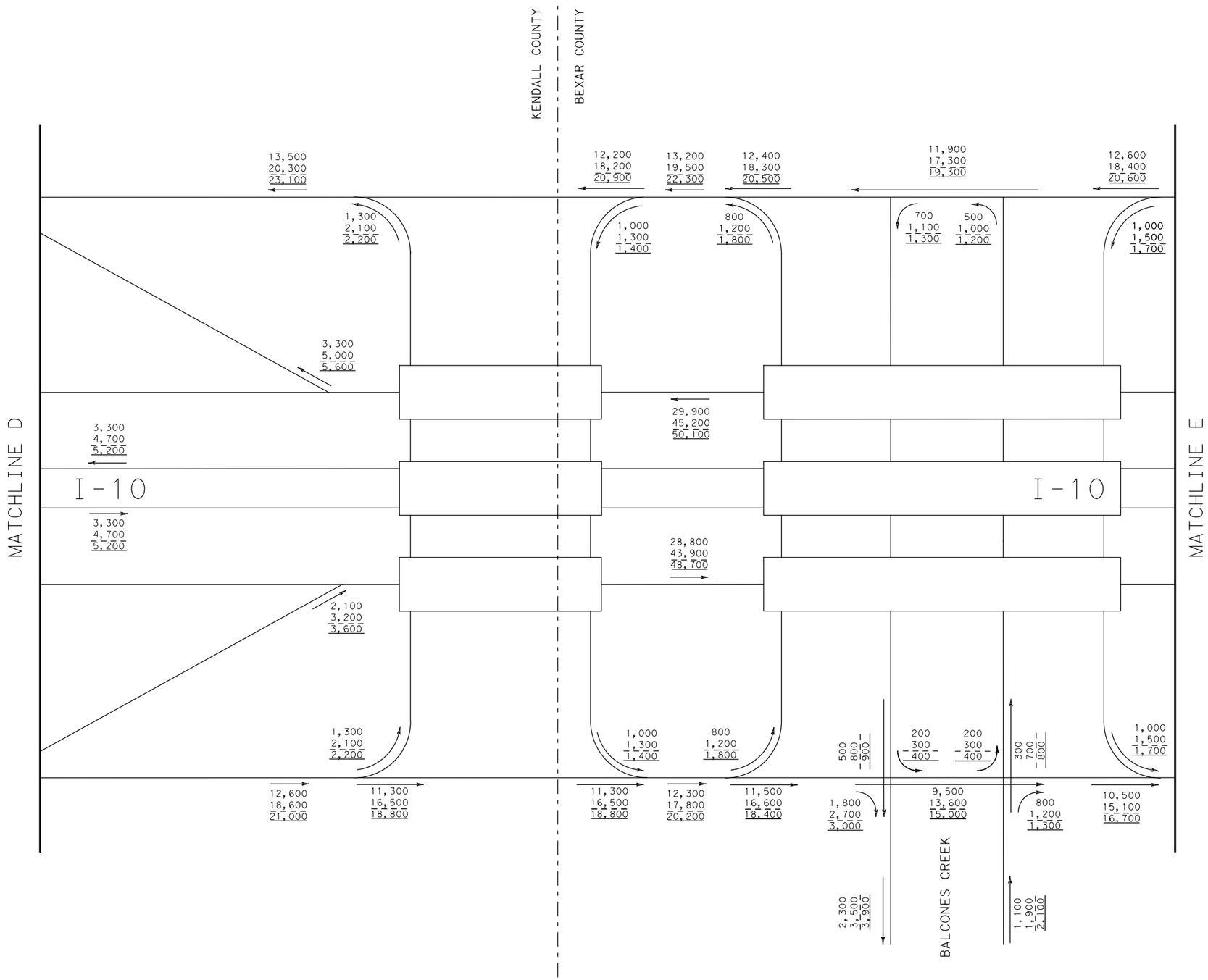
FILE: $PWVARVAULTPATHDESC$ SCALE: 1:400.004



LEGEND

1,000 - 2024 ADT
1,000 - 2044 ADT
1,000 - 2054 ADT

NOT TO SCALE

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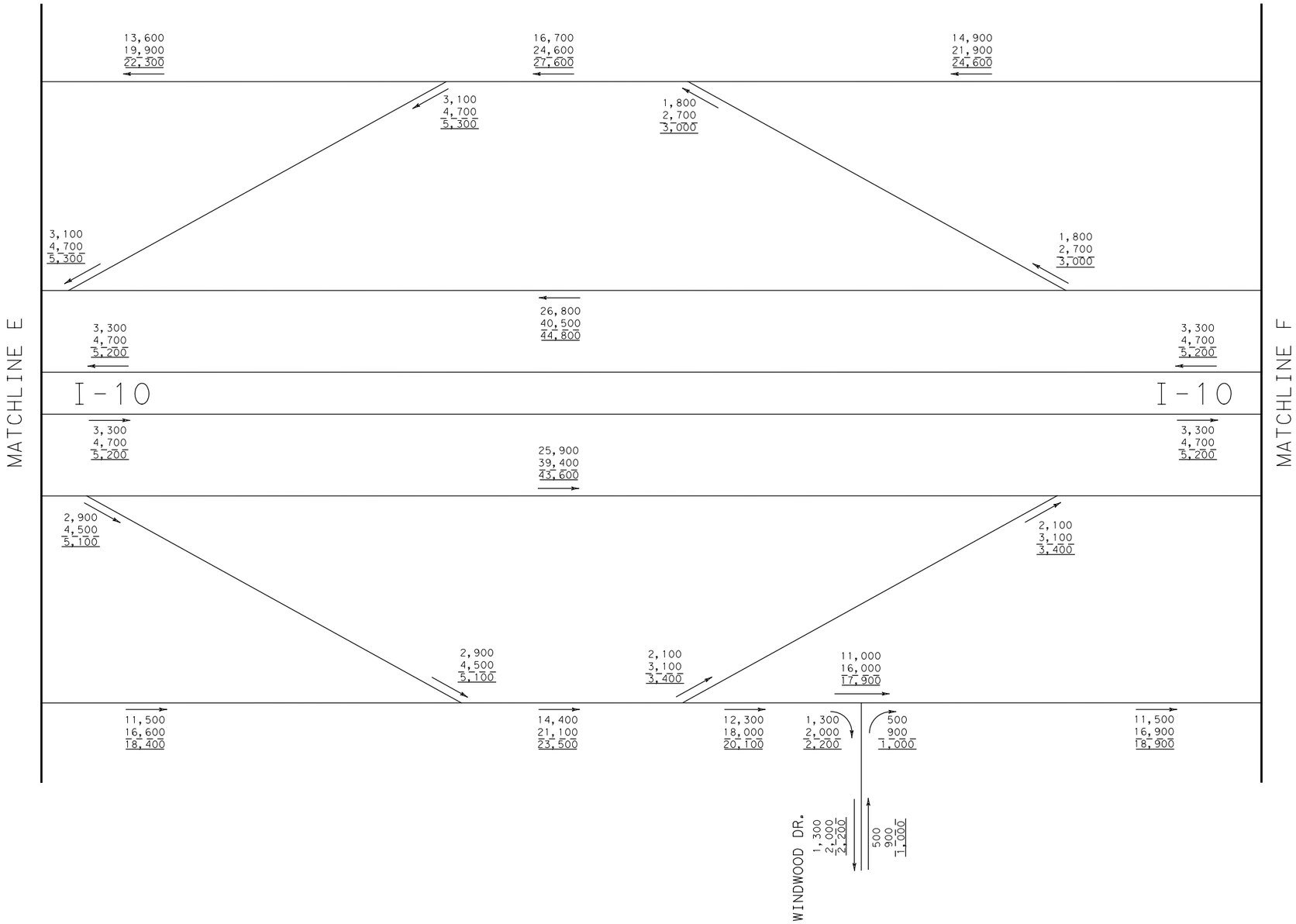
SHEET 05 OF 09

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 10
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	SAT	BEXAR/KENDALL	B5
CONTROL	SECTION	JOB	
0072	06	082	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
USER: VCHANG DATE: 9/27/2018 TIME: 2:31:44 PM PENTABLE: IOI04955.tbl
FILE: $PWVARVAULTPATHDESC$ SCALE: 1:400.004



LEGEND
1,000 - 2024 ADT
1,000 - 2044 ADT
1,000 - 2054 ADT

NOT TO SCALE

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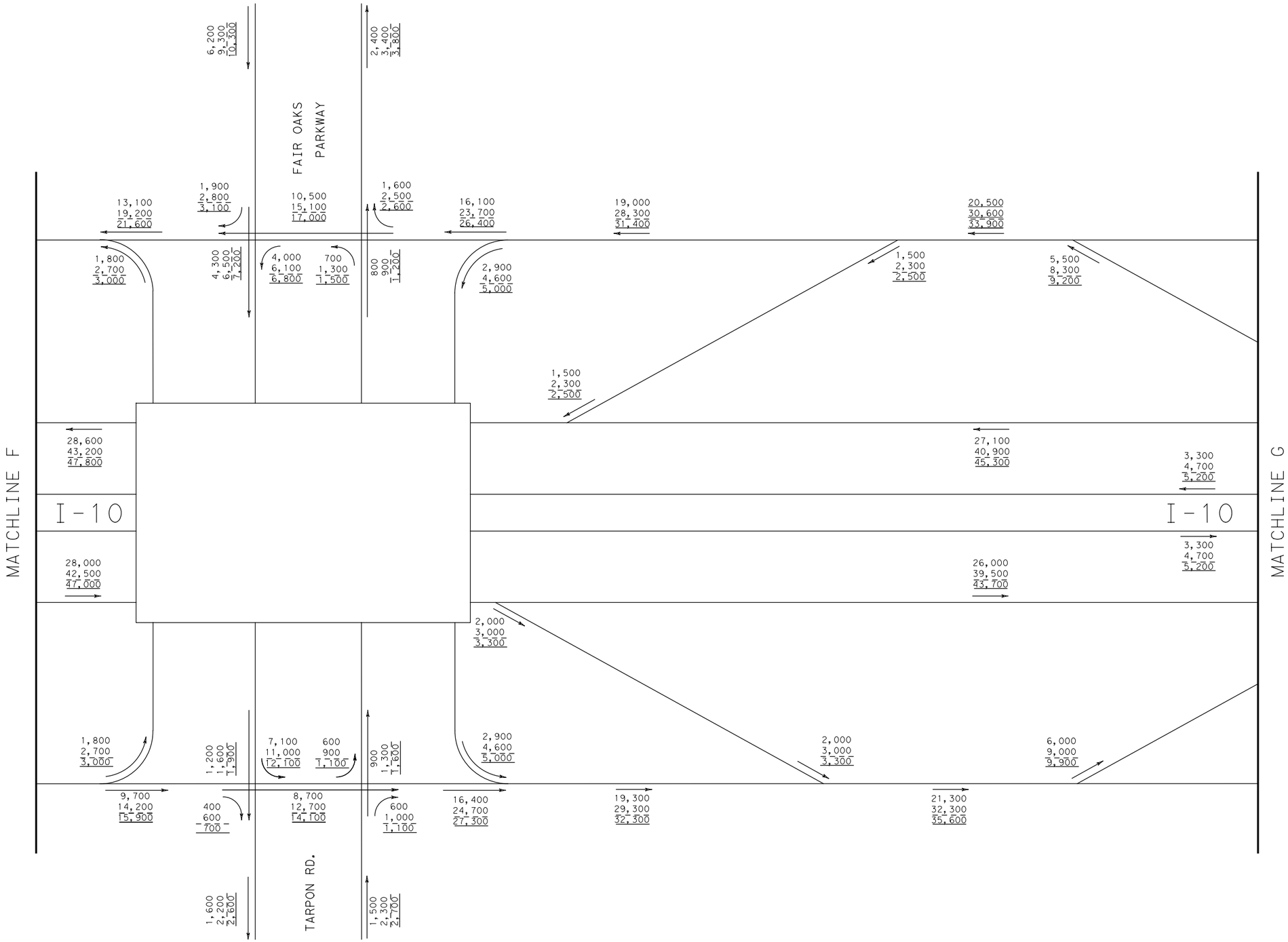
SHEET 06 OF 09

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 10
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	SAT	BEXAR/KENDALL	B6
CONTROL	SECTION	JOB	
0072	06	082	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
USER: VCHANG DATE: 9/27/2018
FILE: $PWVARV/ULTPATHDESC$
PENTABLE: 10104955.tbl
TIME: 2:31:56 PM SCALE:1:400.004



LEGEND
1,000 - 2024 ADT
1,000 - 2044 ADT
1,000 - 2054 ADT

NOT TO SCALE

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SHEET 07 OF 09

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6			IH 10
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	SAT	BEXAR/KENDALL	B7
CONTROL	SECTION	JOB	
0072	06	082	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
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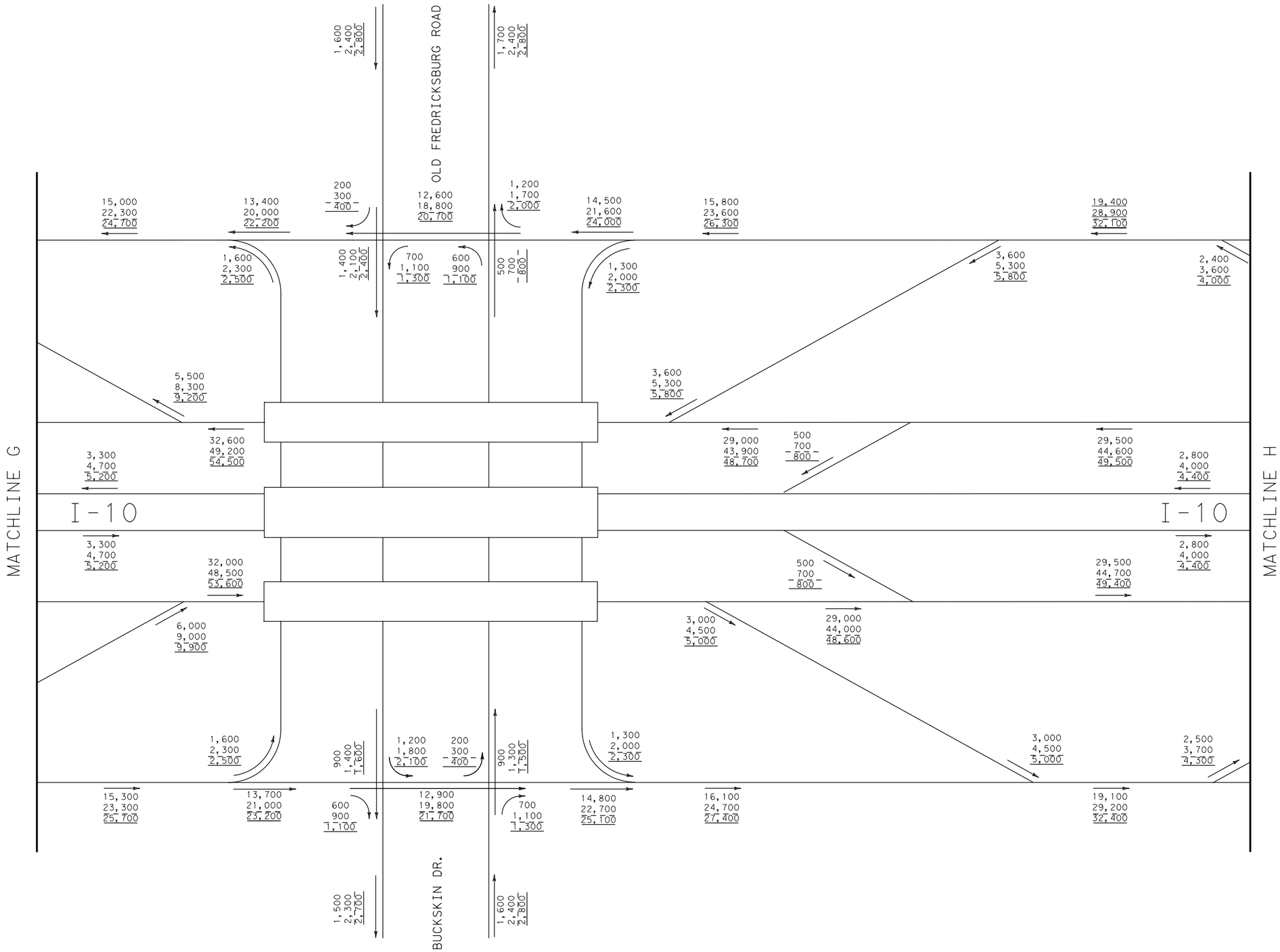
FILE: $PWVARVAULTPATHDESC$ SCALE: 1:400.004



LEGEND
1,000 - 2024 ADT
1,000 - 2044 ADT
1,000 - 2054 ADT

NOT TO SCALE

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SHEET 08 OF 09

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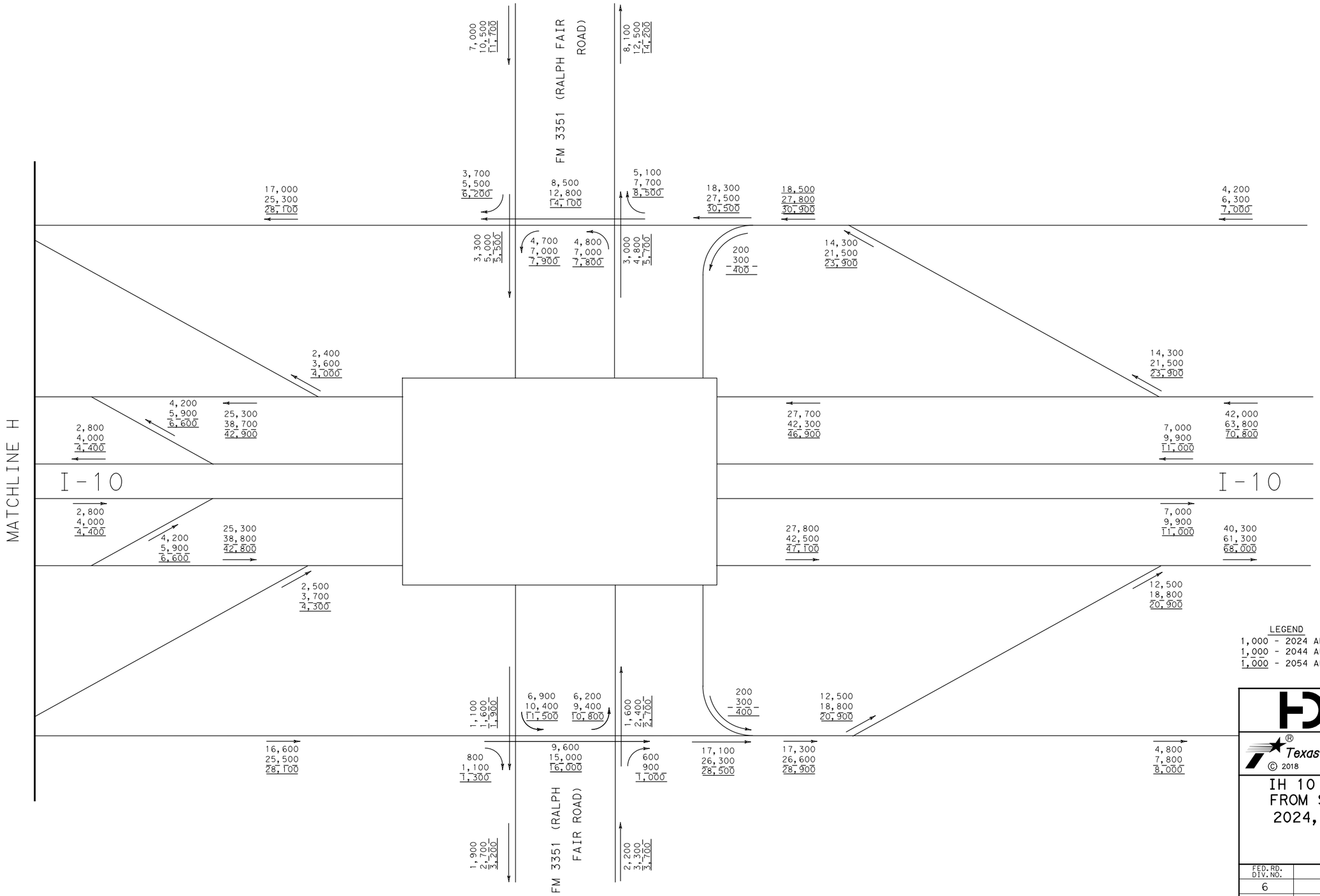
6			IH 10
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	SAT	BEXAR/KENDALL	B8
CONTROL	SECTION	JOB	
0072	06	082	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
USER: VCHANG DATE: 9/27/2018
FILE: $PWVARVAULTPATHDESC$
PENTABLE: 10104955.tbl
TIME: 2:32:20 PM SCALE: 1:400.004



LEGEND
1,000 - 2024 ADT
1,000 - 2044 ADT
1,000 - 2054 ADT

NOT TO SCALE

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SHEET 09 OF 09

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 10
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	SAT	BEXAR/KENDALL	B9
CONTROL	SECTION	JOB	
0072	06	082	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
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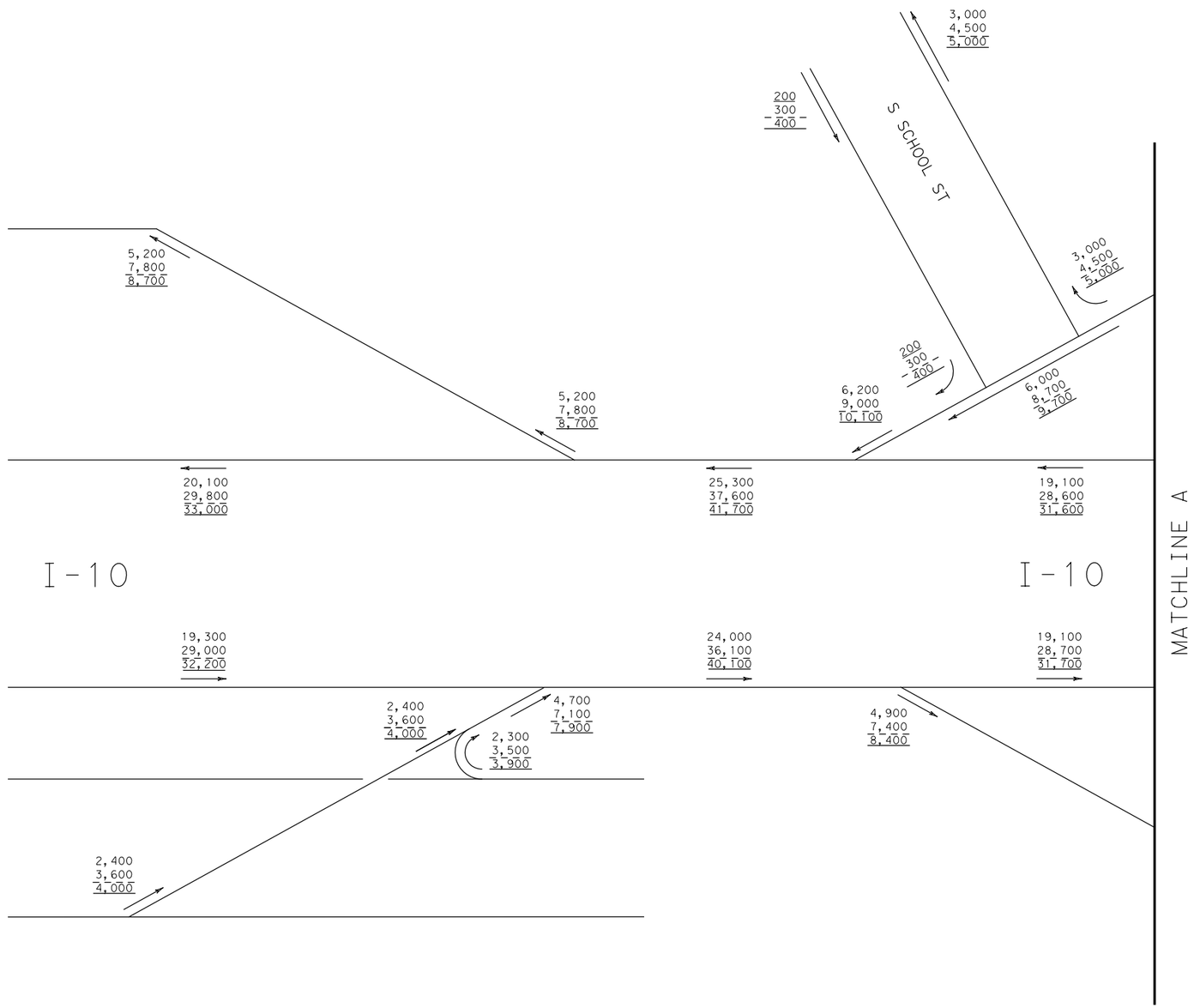
FILE: $PWVARVAULTPATHDESC$ SCALE: 1:400.004



LEGEND

1,000 - 2024 ADT
1,000 - 2044 ADT
1,000 - 2054 ADT

NOT TO SCALE

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SHEET 01 OF 09

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 10
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	SAT	BEXAR/KENDALL	N1
CONTROL	SECTION	JOB	
0072	06	082	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
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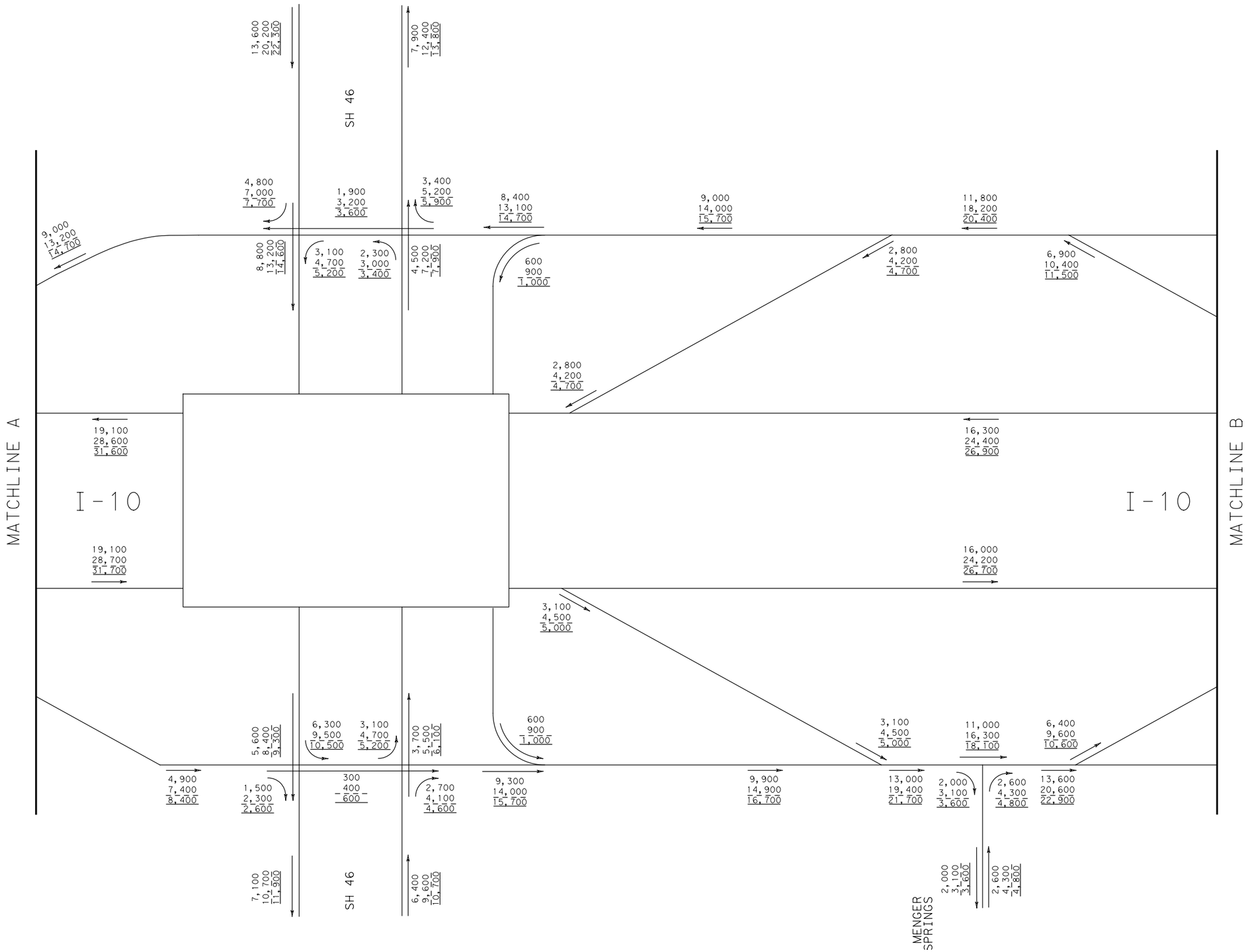
FILE: $PWVARVAULTPATHDESC$ SCALE: 1:400.004



LEGEND

1,000 - 2024 ADT
1,000 - 2044 ADT
1,000 - 2054 ADT

NOT TO SCALE

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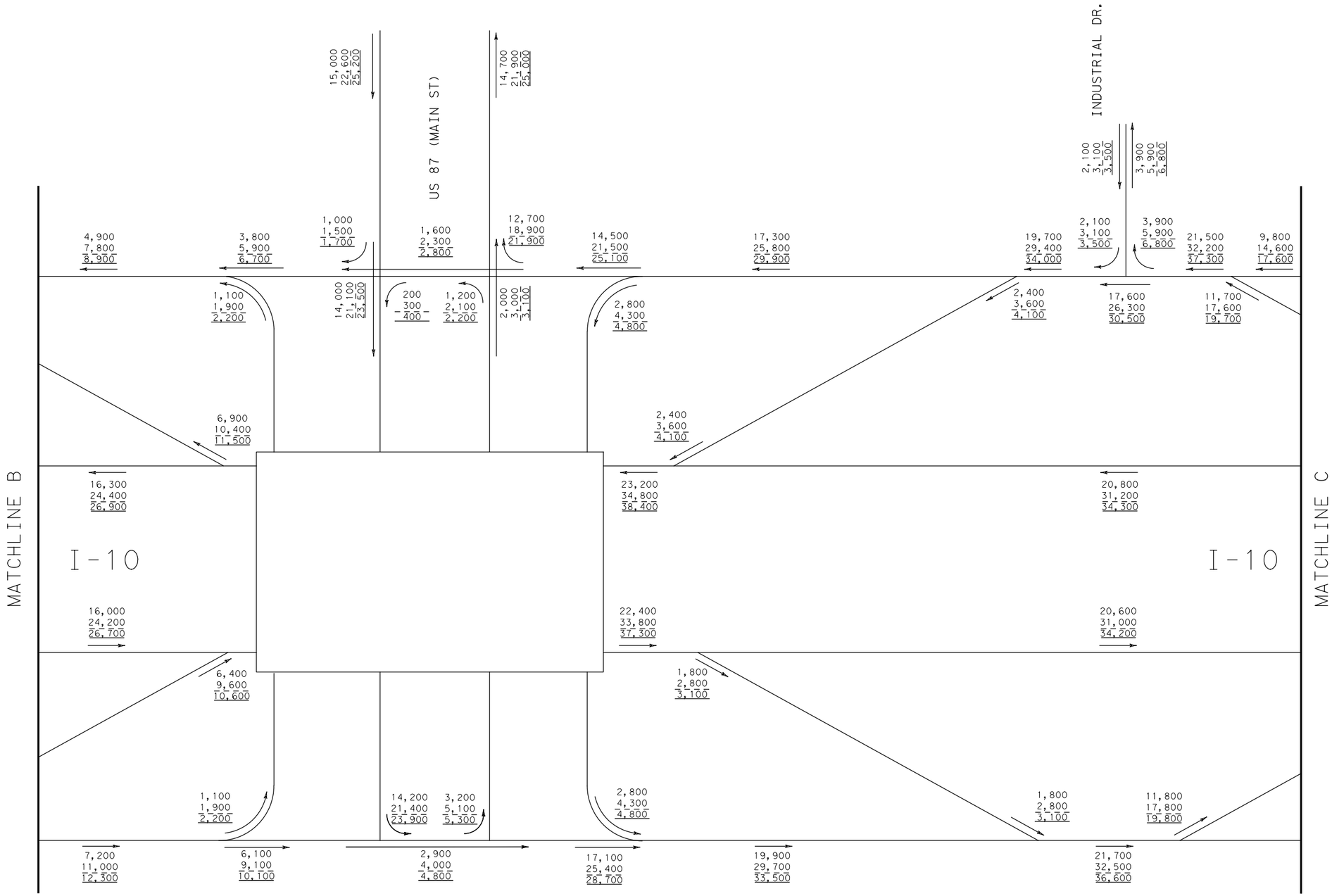
SHEET 02 OF 09

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 10
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	SAT	BEXAR/KENDALL	N2
CONTROL	SECTION	JOB	
0072	06	082	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
USER: VCHANG DATE: 9/27/2018 TIME: 2:32:55 PM PENTABLE: IO104955.tbl
FILE: $PWVARVAULTPATHDESC$ SCALE: 1:400.004



LEGEND
1,000 - 2024 ADT
1,000 - 2044 ADT
1,000 - 2054 ADT

NOT TO SCALE

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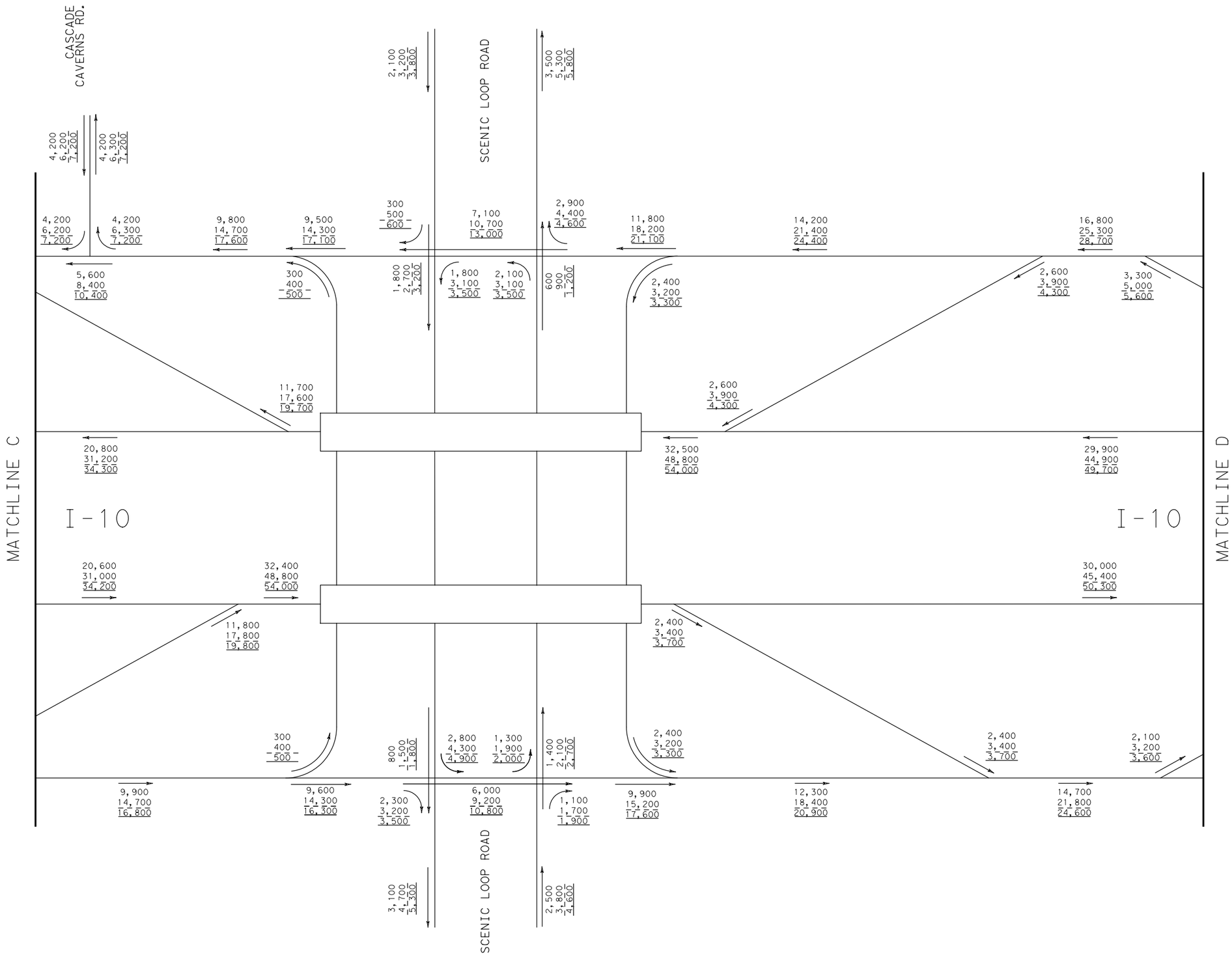
SHEET 03 OF 09

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 10
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	SAT	BEXAR/KENDALL	N3
CONTROL	SECTION	JOB	
0072	06	082	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
USER: VCHANG DATE: 9/27/2018 TIME: 2:33:07 PM PENTABLE: IO104955.tbl SCALE: 1:400.004
FILE: $PWVARVAULTPATHDESC$



LEGEND
1,000 - 2024 ADT
1,000 - 2044 ADT
1,000 - 2054 ADT

NOT TO SCALE

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SHEET 04 OF 09

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 10
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	SAT	BEXAR/KENDALL	N4
CONTROL	SECTION	JOB	
0072	06	082	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
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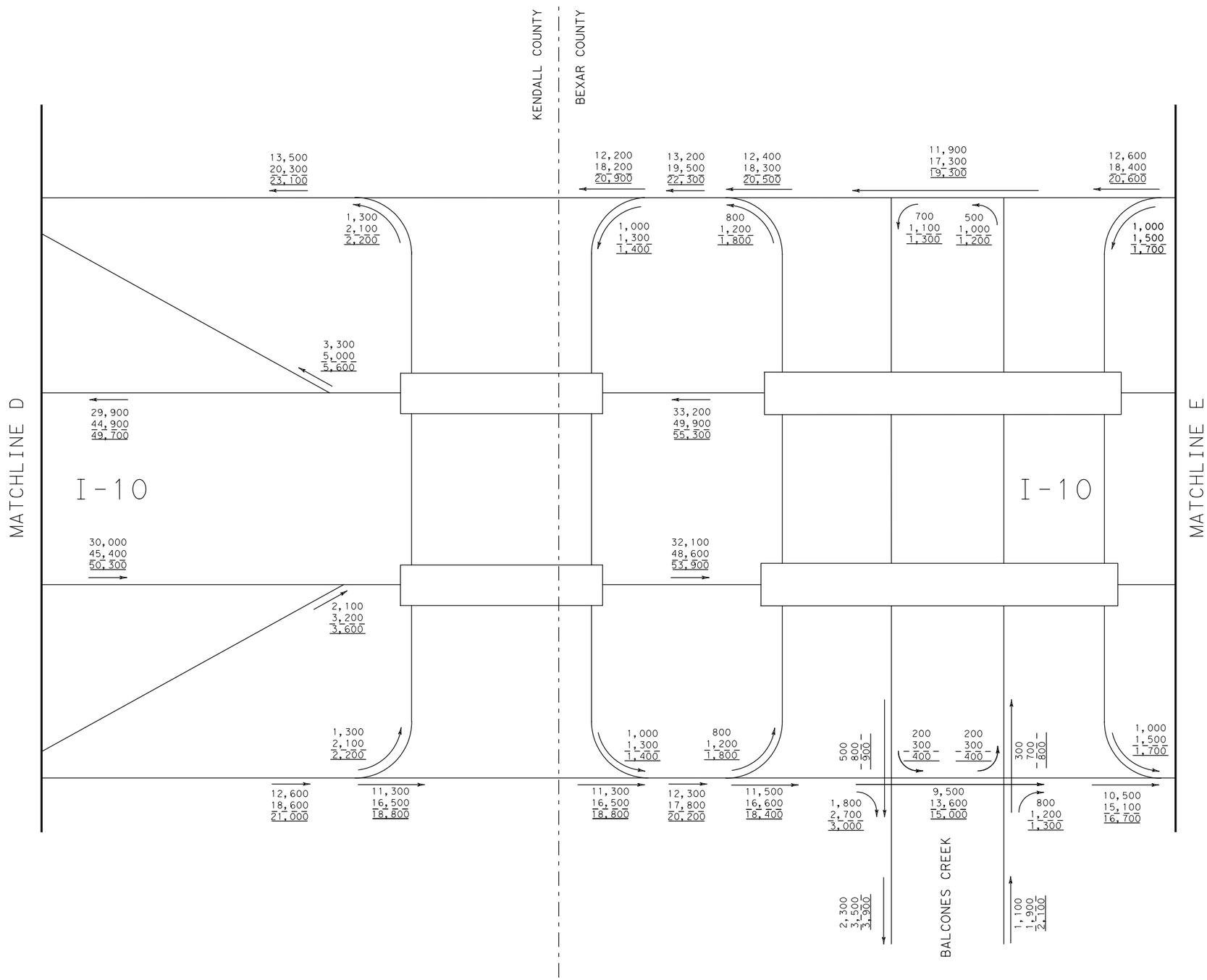
FILE: $PWVARVAULTPATHDESC$ SCALE: 1:400.004



LEGEND

1,000 - 2024 ADT
1,000 - 2044 ADT
1,000 - 2054 ADT

NOT TO SCALE

NOTE: PRELIMINARY TRAFFIC, AWAITING TP&P APPROVAL

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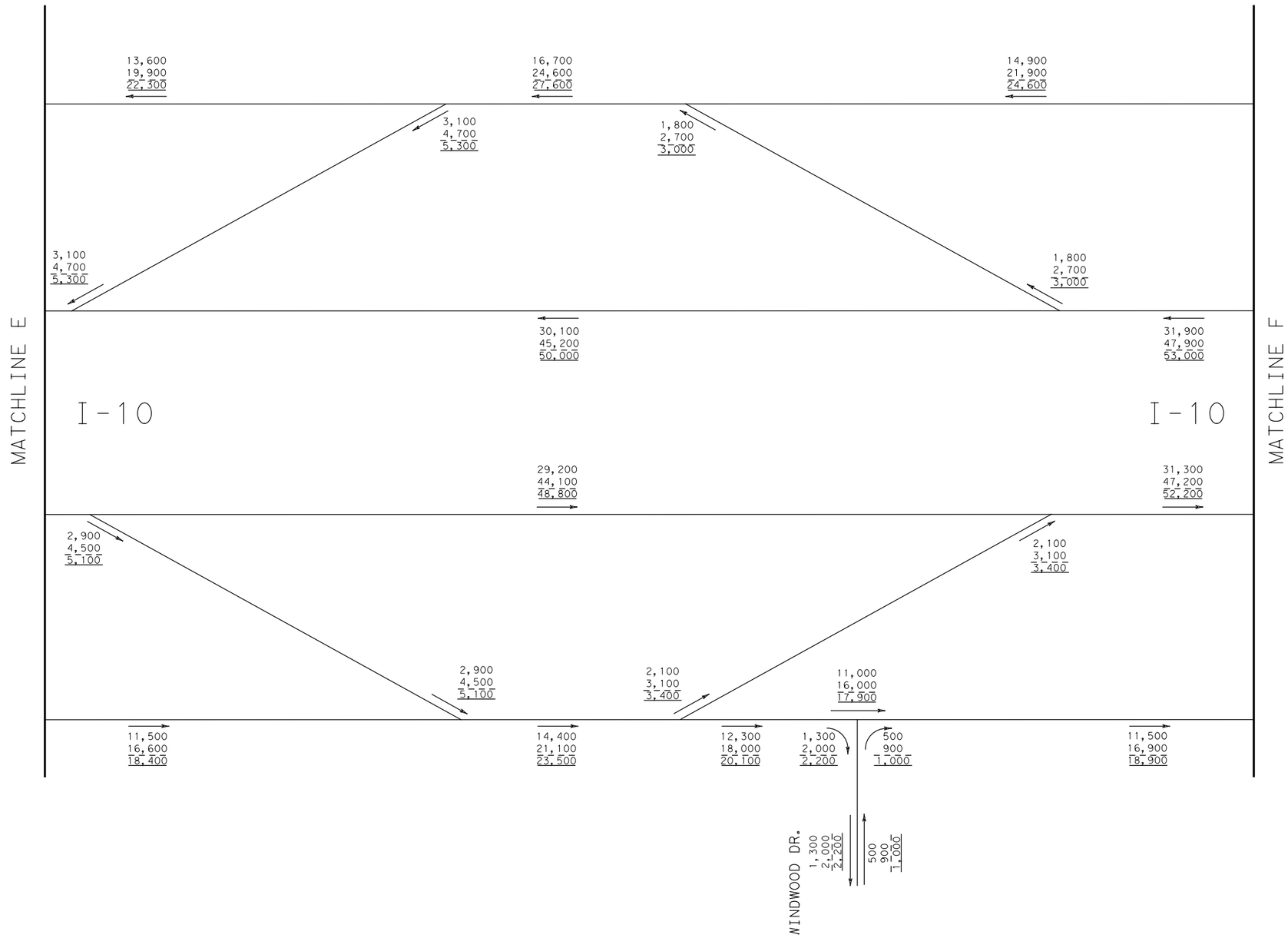
SHEET 05 OF 09

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 10
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	SAT	BEXAR/KENDALL	N5
CONTROL	SECTION	JOB	
0072	06	082	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
USER: VCHANG DATE: 9/27/2018 TIME: 2:33:31 PM PENTABLE: 10104955.tbl
FILE: $PWVARVAULTPATHDESC$ SCALE: 1:400.004



LEGEND

1,000 - 2024 ADT
1,000 - 2044 ADT
1,000 - 2054 ADT

NOT TO SCALE

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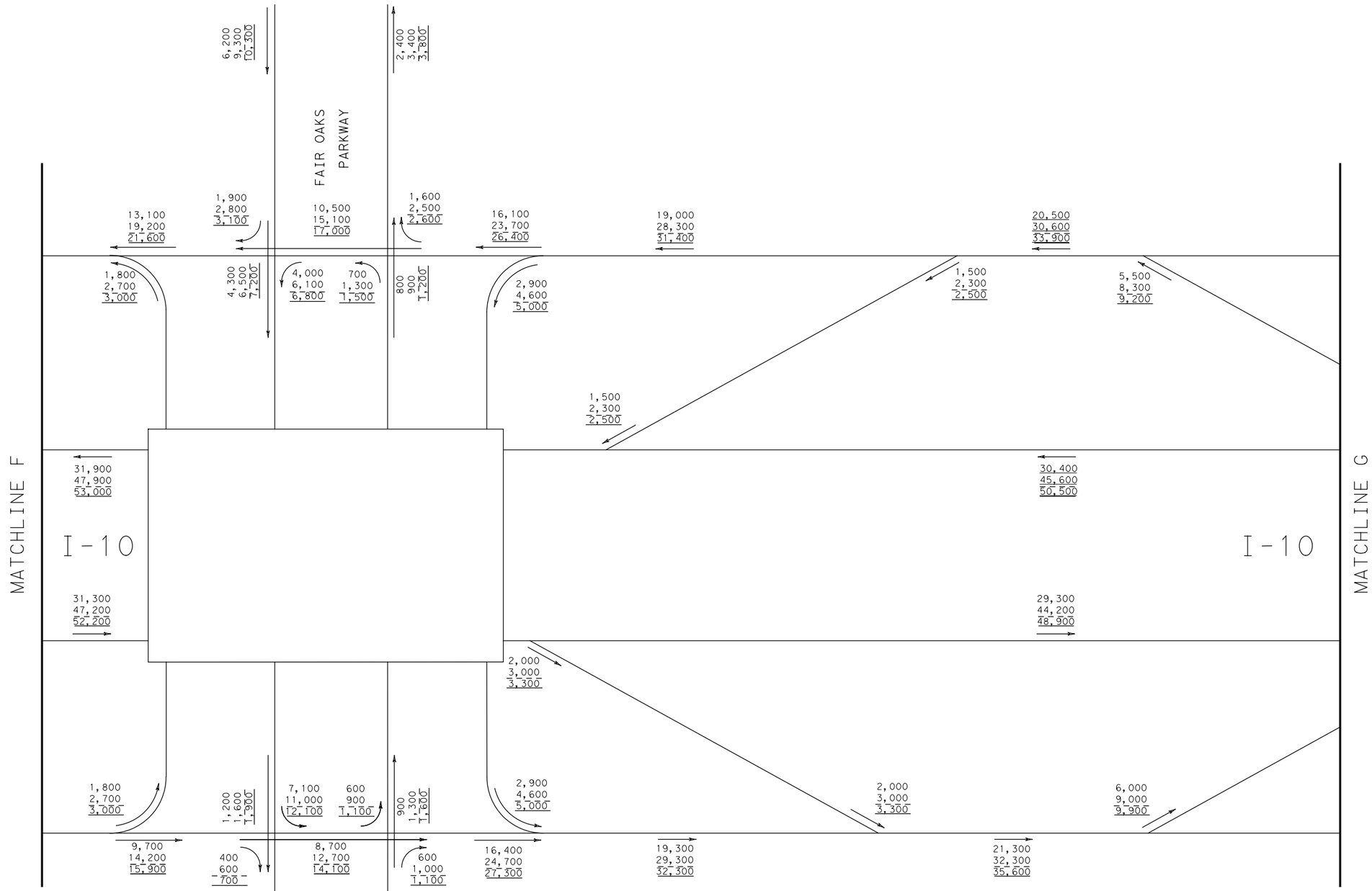
SHEET 06 OF 09

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 10
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	SAT	BEXAR/KENDALL	N6
CONTROL	SECTION	JOB	
0072	06	082	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
USER: VCHANG DATE: 9/27/2018 TIME: 2:33:43 PM PENTABLE: 10104955.tbl
FILE: $PWVARVAULTPATHDESC$ SCALE: 1:400.004



LEGEND

1,000 - 2024 ADT
1,000 - 2044 ADT
1,000 - 2054 ADT

NOT TO SCALE

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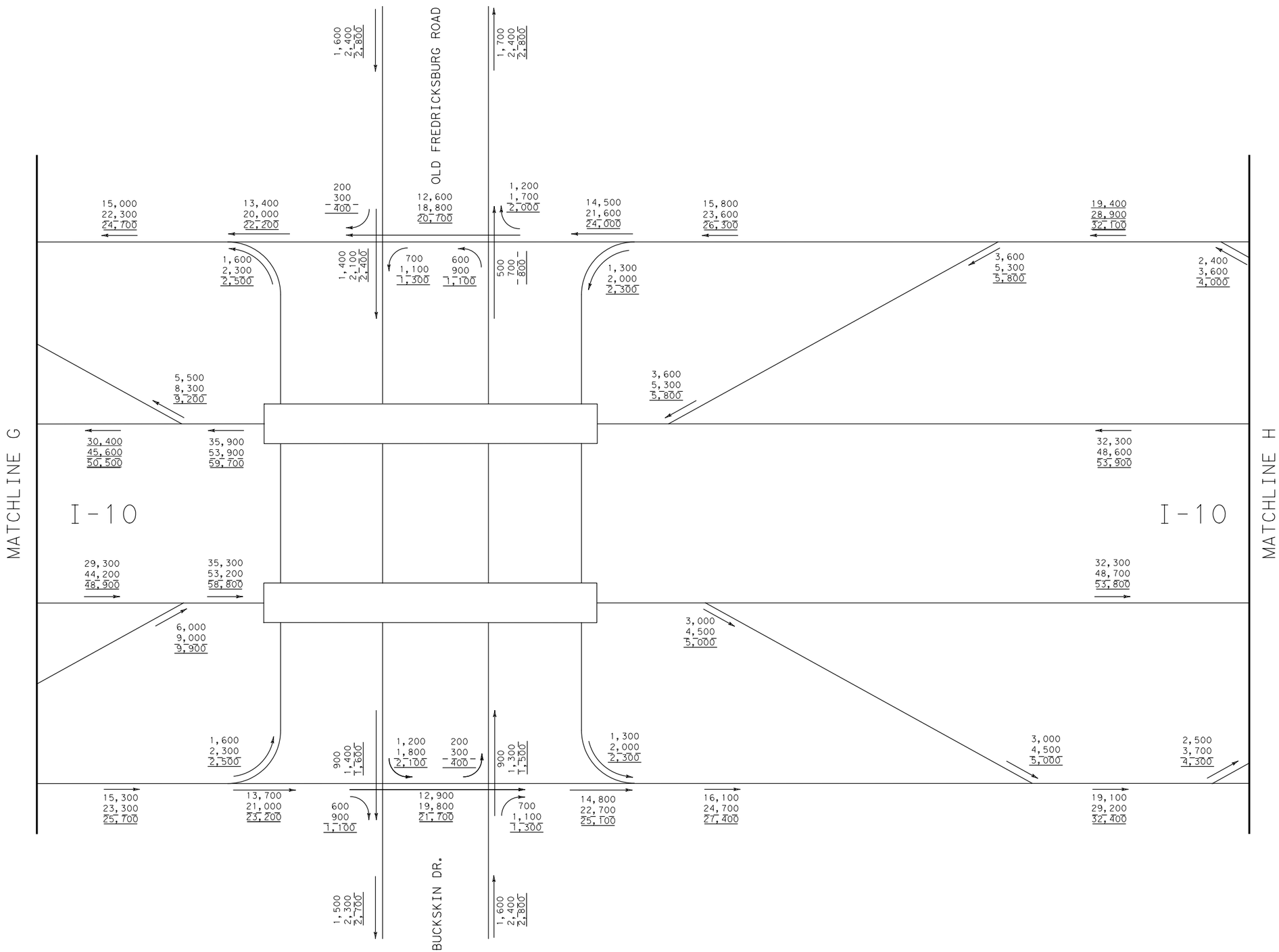
SHEET 07 OF 09

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 10
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	SAT	BEXAR/KENDALL	N7
CONTROL	SECTION	JOB	
0072	06	082	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
USER: VCHANG DATE: 9/27/2018 TIME: 2:33:55 PM PENTABLE: I0104955.tbl
FILE: $PWVARVAULTPATHDESC$ SCALE: 1:400.004



LEGEND

1,000 - 2024 ADT
1,000 - 2044 ADT
1,000 - 2054 ADT

NOT TO SCALE

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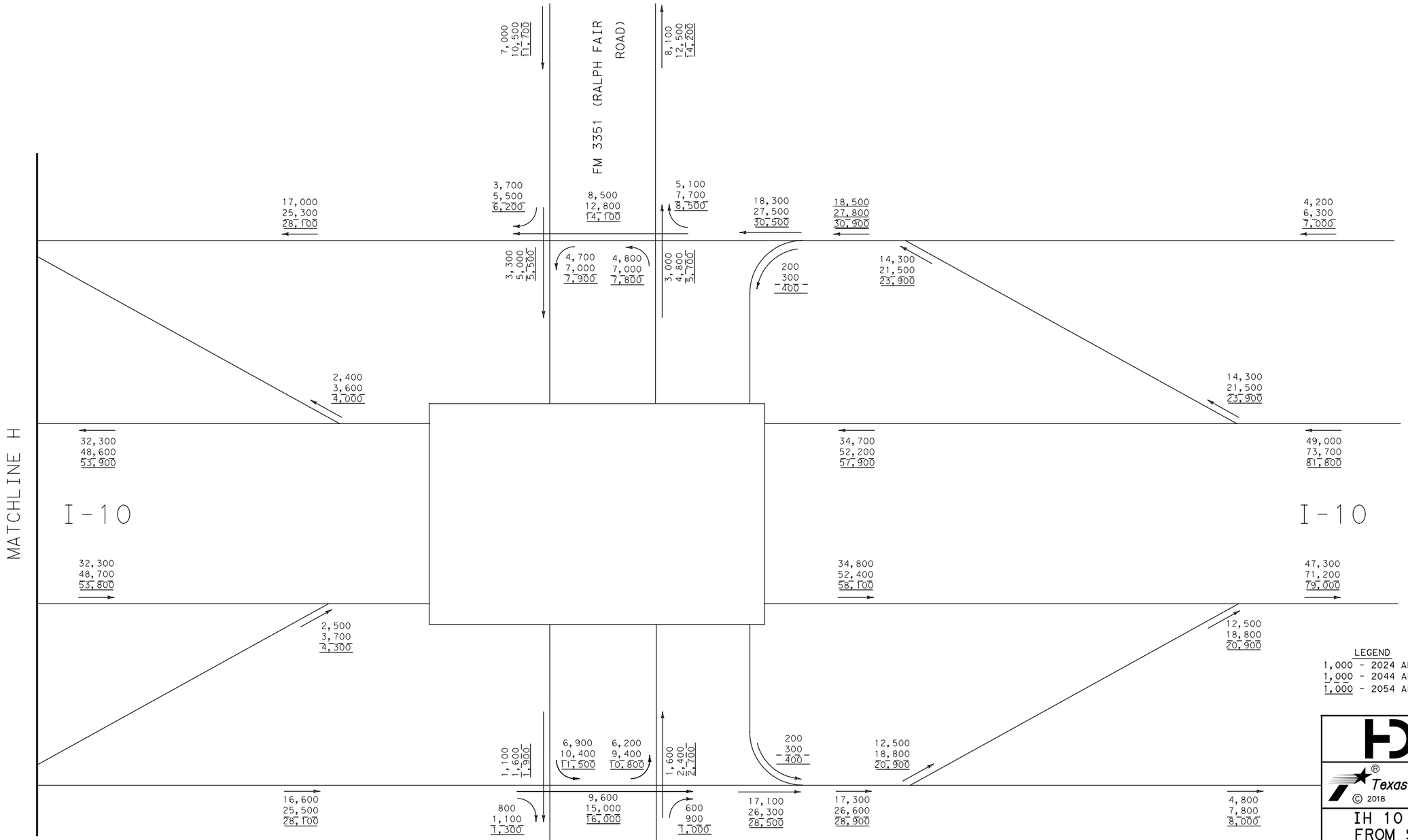
SHEET 08 OF 09

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 10
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	SAT	BEXAR/KENDALL	N8
CONTROL	SECTION	JOB	
0072	06	082	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg PENTABLE: 10104955.tbl
USER: VCHANG DATE: 9/27/2018 TIME: 2:34:07 PM SCALE: 1:400.004
FILE: $PWVARVAULTPATHDESC$



LEGEND
1,000 - 2024 ADT
1,000 - 2044 ADT
1,000 - 2054 ADT

NOT TO SCALE

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SHEET 09 OF 09

FED. RD. DIV. NO.	FEDERAL PROJECT NO.		HIGHWAY NO.
6			IH 10
STATE	DISTRICT	COUNTY	SHEET NO.
TEXAS	SAT	BEXAR/KENDALL	N9
CONTROL	SECTION	JOB	
0072	06	082	

PLOT DRIVER: TXDOT_PDF_BW.pltcfg
USER: VCHANG DATE: 9/27/2018 TIME: 2:34:19 PM PENTABLE: 10104955.tbl
FILE: $PWVARVAULTPATHDESC$ SCALE: 1:400.004